Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 12.12.97 : ISO 4113

Combination No. : 0 402 746 604

Injection pump

Pump designation : PES6P120A720RS7366 EP type number : 0 412 726 933

Governor

Governer design. : RQV275...1100PA1208

: -1K

Soverner no. : 0 421 815 492

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE

Motor

: 8460.41c-3000

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

Tolerance l/h: + 10.0

min. L/h

.. : 160

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

A01

Test lines : 1 680 750 089

Outside diameter: 8.0

x inside diameter :

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 : ← 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 20.50

Tolerance mm : + 0.50

Firing order : 1~ 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Check

tolerance *NW : + 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 11.20

Tolerance mm : +- 0.05

| Del. quantity cm3/1000 strokes : 198.0 | + Tolerance mm : + 0.25 |
|---|---|
| Tolerance | _ + Rated speed rpm : 1440 + guide sleeve |
| cm3/1000 strokes : + 1.0 | travel mm : 13.50 |
| Charle to Language | _ + Tolerance mm : + 0.50 |
| Check tolerance cm3/1000s. : + 4.0 | <u> </u> |
| | _ GUIDE SLEEVE POSITION |
| Spreed | <u> </u> |
| Tolerance | + control lever |
| cm3/1000 strokes : 5.0 | position degree : - 1 |
| Check tolerance | _ + Rated speed rpm : 1295 |
| cm3/1000s. : 9.0 | Rack travel in mm: 10.65 |
| | _ + Tolerance mm : + 2.70 |
| | † |
| Rated speed rpm : 275 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| · | + |
| Ruck travel in mm: 6.40 | Rated speed rpm : 600 |
| Tolerance mm : + 0.10 Del. quantity | + Aneroid pressure + hPa : 1200 |
| cm3/1000 strokes : 19.0 | Del. quantity |
| Tolerance | + cm3/1000 strokes : 198.0 |
| cm3/1000 strokes : + 3.0 | + Tolerance |
| Check tolerance | + cm3/1000 strokes : +- 1.0 |
| cm3/1000s. : +- 6.0 Spreed | + Check tolerance + cm3/1000s. : + 4.0 |
| Tolerance | Spreed 4.0 |
| cm3/1000 strokes : 8.0 | + Tolerance |
| Check tolerance | + cm3/1000 strokes : 5.0 |
| cm3/1000s. : 12.0 | + Check tolerance + cm3/1000s. : 9.0 |
| | T CIRC/10003: . 9:0 |
| (B) SETTING OF INJECTION PUMP | + |
| WITH GOVERNOR | CONTROL LEVER |
| | T CONTROL LEVER |
| GUIDE SLEEVE TRAVEL | control lever |
| Dated aread are 1190 | position degree : 118.0 |
| Rated speed rpm : 1180 guide sleeve | tolerance degree : +- 4.0 |
| travel mm : 10.07 | RATED SPEED |
| Tolerance mm : +- 0.15 | rack travel mm : 10.30 |
| - · · · · · · · · · · · · · · · · · · · | + Rated speed rpm : 1145 |
| Rated speed rpm : 275 guide sleeve | + Tolerance 1/min : +- 5 + Check |
| travel mm : 1.70 | + speed 1/min : +- 10 |
| Tolerance mm : + 0.20 | + |
| | rack travel mm : 4.00 |
| Rated speed rpm : 802 | + Rated speed rpm : 1245 |
| guide sleeve travel mm : 6.49 | + Tolerance 1/min : +- 15 + Check |
| Tolerance mm : + 0.25 | speed 1/min : +- 20 |
| | + |
| Rated speed rpm : 460 | + rack travel mm : 0.50 |
| guide sleeve travel mm : 3.77 | + Tolerance mm : + 0.50 + Rated speed rpm : 1350 |
| . J.// | + Rated speed rpm : 1350 |

| LOW IDLE | · · · · · · · · · · · · · · · · · · · |
|---|--|
| control lever position degree tolerance degree | : 75.0 : ← 4.0 |
| Setting point w/o | out bumper spring |
| Rated speed rpm | : 175 |
| CRT mm min. | : > 7.90 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 275 : 6.40 : ← 0.10 |
| Rated speed rpm | : 315 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 600 : 11.20 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 1100 : 11.35 : + 0.15 |
| Rated speed rpm rack travel mm Tolerance mm | : 800 : 11.25 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 1200 : 11.20 : ← 0.10 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : - : 9.20 : + 0.20 |

| Pressure hPa rack travel man Tolerance man Pressure hPa rack travel man Tolerance man | : 210 : 9.80 : + 0.30 : 300 : 10.65 : + 0.20 |
|--|---|
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 180 : < 220 |
| Check speed 1/min Check | : > 160 |
| speed 1/min | : < 240 |
| FUEL DELIVERY CHA | ARACTERISTICS |
| Aneroid pressure hPa Rated speed rpm Del. quantity | : 1200 : 1100 |
| cm3/1000 strokes | : 228.0 |
| Tolerance cm3/1000 strokes | : + 3.0 |
| Check tolerance cm3/1000s. | : +- 6.0 |
| rack travel mma Tolerance mma | : 11.25 : + 0.10 |
| Aneroid pressure hPa Rated speed rpm | : - : 600 |
| Del. quantity cm3/1000 strokes | : 140.0 |
| Tolerance cm3/1000 strokes | : + 1.0 |
| Check tolerance cm3/1000s. | : +- 4.0 |
| STARTING FUEL DEL | IVERY |
| Set starting CRT | at K-cam. |
| Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes | : 100 : 11.90 : + 0.50 : 110.0 |

MEASUREMENT

Rated speed rpm : 500

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : 6.40 : **←** 0.10 Tolerance am

Del. quantity

cm3/1000 strokes : 19.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s.

: + 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 10.11.97 : ISO 4113

Combination No.

: 0 402 746 655

Injection pump

Pump designation : PES6P120A320RS7343 : 0 412 726 915

EP type number

Governor

Governer design. : RQV300...1000PA1160

: -1K

Governer no.

: 0 421 815 559

Cust. part No. : 5168 66-250

Customer-spec. information

: RENAULT V.I. Customer : MIDR 062356 B41 Motor

Power KW : 288.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

: 1 680 750 089 Test lines

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.50 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 11.00 Tolerance mn: \leftarrow 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery mark

*NW after s.o.d. : -0.40 Tolerance : + - 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel 11.00 Difference * CS : 2.25

CRT ZERO POSITION

| | † Tolerance man : + 0.20 |
|---|--|
| Rack travel in mm : 13.00 Tolerance mm : ← 0.05 | Rated speed rpm : 827 guide sleeve |
| roter drive han O.O. | travel mm : 5.96 |
| | Tolerance mm : + 0.25 |
| BASIC SETTING | + |
| Rated speed rpm : 1000 | + Rated speed rpm : 550 + guide sleeve |
| | _ + travel mm : 3.66 |
| Del. quantity cm3/1000 strokes : 356.0 | Tolerance mm : + 0.25 Rated speed rpm : 1440 |
| Tolerance | guide sleeve |
| cm3/1000 strokes : + 1.0 | |
| | |
| Check tolerance | _ + Tolerance mm : +- 0.50 |
| cm3/1000s. : +- 4.0 | |
| | _ + GUIDE SLEEVE POSITION |
| Spreed | <u>†</u> |
| Tolerance | control lever |
| cm3/1000 strokes : 5.0 | <pre>position degree : - 1</pre> |
| | _ + Rated speed rpm : 1291 |
| Check tolerance | + |
| cm3/1000s. : 9.0 | + Rack travel in mm : 12.00 |
| | _ † Tolerance mm : +- 1.30 |
| | Ţ |
| Rated speed rpm : 300 | + FULL LOAD DELIVERY AT FULL LOAD STOP |
| Rack ∜ravel in mm : -7.80 | Rated speed rpm : 1000 |
| Tolerance mm : + 0.10 | + Aneroid pressure |
| Del. quantity | + hPa : 1200 |
| cm3/1000 strokes : 36.0 | + Del. quantity |
| Tolerance | - cm3/1000 strokes : 356.0 |
| cm3/1000 strokes : + 1.5 | Tolerance |
| Check tolerance | + cm3/1000 strokes : + 1.0 |
| cm3/1000s. : +- 5.0 | - Check tolerance |
| Spreed | + cm3/1000s. : +- 4.0 |
| Tolerance | Spreed |
| cm3/1000 strokes : 8.0 | + Tolerance |
| Check tolerance | + cm3/1000 strokes : 5.0 |
| cm3/1000s. : 12.0 | + Check tolerance |
| | + cm3/1000s. : 9.0 |
| (B) SETTING OF INJECTION PUMP | Ţ . |
| WITH GOVERNOR | |
| | + CONTROL LEVER |
| GUIDE SLEEVE TRAVEL | control lever |
| | position degree : 294.0 |
| Rated speed rpm : 1113 | tolerance degree : + 4.0 |
| guide sleeve | + |
| travel mm : 8.82 Tolerance mm : + 0.15 | + RATED SPEED |
| Tolerance mm : + 0.15 | + rack travel mm : -1.00 |
| | Rated speed rpm : 1100 |
| Rated speed rpm : 300 | † Tolerance 1/min : + 5 |
| guide sleeve | † |
| travel mm : 1.29 | + rack travel mm : −9.00 |
| | |

| Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm | |
|---|------------------------------|
| LOW IDLE | |
| control lever position degrée tolerance degree | : 250.0 : + 4.0 |
| Setting point w/o | out bumper spring |
| Rated speed rpm | : 200 |
| CRT am min. | : > -6.80 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : -7.80 : + 0.10 |
| Rated speed rpm | : 390 |
| TORQUE CONTROL Rated speed rpm | : 1000 |
| Rated speed rpm rack travel mm Tolerance mm | : 600 : -0.65 : ← 0.15 |
| Rated speed rpm rack travel mm Tolerance mm | : 800 : 0.10 : + 0.15 |
| Rated speed rpm rack travel mm Tolerance mm | : 350 : -1.75 : + 0.30 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa | : 500 : 1200 |
| Rated speed rpm Pressure hPa rack travel mm | : 500 : - : -4.00 |

| MEASUREMENT | |
|---|-------------------------------|
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 320 : -2.90 : +- 0.15 |
| Pressure hPa rack travel mm Tolerance mm | : 520 : −1.80 : ← 0.05 |
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 100 : < 225 |
| Check speed 1/min Check | : > 80 |
| speed 1/min | : < 245 |
| Aneroid pressure hPa Rated speed rom | : 1200 : 600 |
| hPa Rated speed rpm Del. quantity | |
| cm3/1000 strokes Tolerance | |
| cm3/1000 strokes Check tolerance cm3/1000s. | : ← 3.0 : ← 6.0 |
| rack travel mm Tolerance mm | : 0.10 : + 0.15 |
| Aneroid pressure | |
| hPa Rated speed rpm Del. quantity | : 500 |
| cm3/1000 strokes | : 245.0 |
| Tolerance | |
| cm3/1000 strokes Check tolerance | : ← 1.0 : ← 4.0 |
| cm3/1000 strokes | : +- 4.0 |

Tolerance mm : ← 0.30

| Tolerance mm Del. quantity | : +- | 0.75 |
|--|------|-------|
| cm3/1000 strokes | : | 185.0 |
| Tolerance cm3/1000 strokes Check tolerance | : +- | 15.0 |
| cm3/1000s. | : +- | 19.0 |

LOW IDLE

| Rated speed rpm | : | 300 | |
|--|------|---------------|--|
| Rack travel in mm Tolerance mm Del. quantity | : +- | -7.80 0.10 | |
| cm3/1000 strokes Tolerance | : | 36.0 | |
| 744000 | : +- | 1.5 | |
| cm3/1000s. Spreed Tolerance | : +- | 5.0 | |
| cm3/1000 strokes Check tolerance | : | 0.8 | |
| cm3/1000s. | : | 12.0 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 15.12.97

Test oil

: ISO 4113

Combination No.

: 0 402 746 995

Injection pump

Pump designation : PES6P120A320RS7343

EP type number : 0 412 726 915

Governor

Governer design. : RQV300...1000PA1160K

Governer no.

: 0 421 815 420

Cust. part No. : CCEP 5144A 66-232

Customer-spec, information

Customer

: RENAULT V.I.

Motor

: MIDR 062356 A/41

Power KW

: 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

: 208.5

Tolerance bar

: + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : x length am :

3.0 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm

: 4.50

Tolerance mm Check

: +- 0.05

tolerance mm: + 0.10

Rack travel in mm : 11.00 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: **←** 0.50

Check

tolerance *NW

: + 0.75

Start of delivery mark

*NW after s.o.d. : -0.40

Tolerance

: + 0.50

Check

tolerance *NW

: **←** 0.75

Barrel no.

1 :

Beginning of delivery differende

betw. rack trav.

TER

21.00

and maximum rack

travel

11,00

Difference * CS :

CRT ZERO POSITION

| | | | Talamana | 0.35 |
|-------------------------------------|---------------------|---------------|---------------------------|----------------------|
| | | Ţ | Tolerance mm | : ← 0.25 |
| Rack travel in ma | | + | Rated speed rpm | : 823 |
| Tolerance mm | : ← 0.05 | † | guide sleeve | |
| | | † | travel mm | 5.92 |
| BASIC SETTING | | | Tolerance mm | : ← 0.25 |
| | | 1 | Rated speed rpm | : 405 |
| Rated speed rpm | : 1000 | † | guide sleeve | . 2.47 |
| Del. quantity | | | travel mm Tolerance mm | : 2.43 : + 0.25 |
| cm3/1000 strokes | : 350.0 | Ţ | | . +- 0.25 |
| - \ | | + | Rated speed rpm | : 455 |
| Tolerance | . 40 | † | guide sleeve | |
| cm3/1000 strokes | : ← 1.0 | † | travel mm | : 2.98 |
| Check tolerance | | † | Tolerance mm | : ← 0.25 |
| cm3/1000s. | : +- 4.0 | Ţ | Rated speed rpm | : 550 |
| | | 1 | guide sleeve | . 330 |
| Spreed | | + | travel mm | 3.66 |
| • | | + | Tolerance mm | : + 0.25 |
| Tolerance | | + | | 4 |
| cm3/1000 strokes | : 5.0 | † | Rated speed rpm | : 1440 |
| Charle Artenana | | † | guide sleeve | 47 50 |
| Check tolerance cm3/1000s. | : 9.0 | † | travel mm | 13.50 |
| CHS/1000S. | . 9.0 | I | Tolerance mm | : +- 0.50 |
| | | + | | |
| Rated speed rpm | • 300 | Ī | GUIDE SLEEVE POSI | ITON |
| nated optical type | . 000 | 1 | | |
| Rack travel in mm | | + | control lever | |
| | : + 0.10 | + | position degree | : - 1 |
| Del. quantity | | † | Rated speed rpm | : 1300 |
| cm3/1000 strokes | : 38.0 | † | | |
| Tolerance | 45 | † | Rack travel in mm | |
| cm3/1000 strokes Check tolerance | : +- 1.5 | † | Tolerance mm | : ← 1.30 |
| cm3/1 000 s. | : ← 5.0 | Ť | | |
| Spreed | . +- 5.0 | Ī | FULL LOAD DELIVER | Y AT EUL LO |
| Tolerance | | I | TOLL LOND DELIVER | I AI FULL LU |
| cm3/1000 strokes | : 8.0 | 1 | Rated speed rpm | : 1000 |
| Check tolerance | | 1 | Aneroid pressure | , ,,,,,, |
| cm3/1000s. | : 12.0 | + | hPa | : 1200 |
| | | + | Del. quantity | |
| | | + | cm3/1000 strokes | : 350.0 |
| (B) SETTING OF IN | JECTION PUMP | + | Tolerance | _ |
| WITH GOVERNOR | | † | cm3/1000 strokes | : + 1.0 |
| | | | Check tolerance | |
| GUIDE SLEEVE TRAVE | | | cm3/1000s. Spreed | : +- 4.0 |
| COINT SPECAE LUMAS | | I | Tolerance | |
| Rated speed rpm | : 1103 | 1 | cm3/1000 strokes | : 5.0 |
| guide sleeve | | 1 | Check tolerance | |
| travel mm | : 8.70 | 1 | cm3/1000s. | ; 9.0 |
| Tolerance mm | : ← 0.25 | + | | |
| Rated speed rpm | : 300 | 1 | | |
| guide sleeve | | + | CONTROL LEVER | |
| travel mm | : 1.32 | + | | |
| | | | | |

FULL LOAD STOP

| | + | |
|---|--|---|
| control lever position degree tolerance degree | | ANEROID/ALTITUDE COMPENSATOR TEST |
| RATED SPEED rack travel am Rated speed rpm Tolerance 1/min | | SETTING Rated speed rpm : 1000 |
| rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm | : 1210 : + 15 : -12.30 : + 0.50 | Pressure hPa : 1200 Rated speed rpm : 1000 Pressure hPa : - rack travel mm : -3.90 Tolerance mm : +- 0.30 MEASUREMENT |
| | 1 | Rated speed rpm : 1000 |
| LOW IDLE | + | Pressure hPa : 320 rack travel mm : -2.80 Tolerance mm : + 0.15 |
| control lever position degree tolerance degree | | Pressure hPa : 520 rack travel mma : -1.70 Tolerance mma : + 0.05 |
| Testing: | + | Start interlock |
| Rated speed rpm rack travel mm Tolerance mm | : -7.60 | Rated speed rpm :> 100 Rated speed rpm :< 225 |
| Rated speed rpm | + | Check speed 1/min : > 80 |
| CRT mm max. Rated speed rpm | + | Check sp ee d 1/min : < 245 |
| TORQUE CONTROL | <u> </u> | FUEL DELIVERY CHARACTERISTICS |
| Rated speed rpm | + | Aneroid pressure |
| Rated speed rpm rack travel mm Tolerance mm | | hPa : 1200 Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 381.0 |
| Rated speed rpm rack travel mm Tolerance mm | : 0.10 | Tolerance cm3/1000 strokes : \(\div \) 3.0 Check tolerance cm3/1000s. : \(\div \) 6.0 |
| Rated speed rpm rack travel mm Tolerance mm | : -1.70 + | rack travel mm : 0.10 Tolerance mm : + 0.15 |
| | ‡ | Aneroid pressure hPa : - |

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 245.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : \leftarrow 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 185.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : -7.60Tolerance mm : \div 0.10

Del. quantity

cm3/1000 strokes : 38.0

Tolerance

cm3/1000 strokes : \leftarrow 1.5

Check tolerance

cm3/1000s. : \leftarrow 5.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 11.12.97 : ISO 4113

Combination No. : 0 402 846 302

Injection pump

Pump designation : PE6P120A320RS8520 EP type number : 0 412 826 202

Governor

Governer design. : RQV275...1000PA1269K

Governer no. : 0 421 815 969

Cust. part No. : 1310222/2

Customer-spec. information Customer : DAF : XF 355 M Motor Power KW : 355.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : ← 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : +-4.85 : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

980 Rated speed rpm :

Rack travel in mm: 14.05 Tolerance mm : \leftarrow 0.05

| | + guide sleeve |
|-----------------------------------|--|
| Del. quantity | + travel mm : 13.50 |
| cm3/1000 strokes : 344.0 | + Tolerance man : +- 0.50 |
| | 1 |
| Tolerance | |
| cm3/1000 strokes : + 1.0 | GUIDE SLEEVE POSITION |
| | |
| Check tolerance | Rated speed rpm : 1121 |
| cm3/1000s. : + 5.0 | 1 Marca speed (pm : 1/2) |
| 1 | Rack travel in mm : 13.30 |
| Spreed | Tolerance mm : +- 1.30 |
| opi cca | Totalice in . +- 1.50 |
| Tolerance | T |
| cm3/1000 strokes : 8.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| CHOT TOOU SETURES . 0.0 | T FULL LOAD DELIVERY AT FULL LOAD STOP |
| Check tolerance | T Poted aread my . 000 |
| = 14555 | Rated speed rpm : 980 |
| cm3/1000s. : 13.0 | + Aneroid pressure |
| | + hPa : 1500 |
| | Del. quantity |
| Dahad as and see a SEP | + cm3/1000 strokes : 344.0 |
| Rated speed rpm : 275 | + Tolerance |
| | + cm3/1000 strokes : +- 1.0 |
| Rack travel in mm: 4.50 | + Check tolerance |
| Tolerance mm : ← 0.10 | + cm3/1000s. : $+$ 5.0 |
| Del. quantity | + Spreed |
| cm3/1000 strokes : 18.0 | + Tolerance |
| Tolerance | + cm3/1000 strokes : 8.0 |
| cm3/1000 strokes : + 3.0 | + Check tolerance |
| Check tolerance | + cm3/1000s. : 13.0 |
| cm3/1000s. : +- 6.0 | + |
| Spreed | 1 |
| Tolerance | |
| cm3/1000 strokes : 6.0 | CONTROL LEVER |
| Check tolerance | TOWNING CEVEN |
| cm3/1000s. : 12.0 | + control lever |
| CHS/ 10000: 12.0 | position degree : 118.0 |
| | tolerance degree : +- 4.0 |
| (B) SETTING OF INJECTION PUMP | T coterante degree . +- 4.0 |
| WITH GOVERNOR | T RATED SPEED |
| MILL GOACIGACK | |
| | rack travel mm : 13.05 |
| CUIDE CLEDIE TRAVEL | - Rated speed rpm : 1045 |
| GUIDE SLEEVE TRAVEL | + Tolerance 1/min : +- 5 |
| Debad spand see 4050 | + Check |
| Rated speed rpm : 1058 | + speed 1/min : +- 10 |
| guide sleeve | † |
| travel mm : 9.97 | + rack travel mm : 4.00 |
| Tolerance mm : + 0.15 | + Rated speed rpm : 1140 |
| | + Tolerance 1/min : + 15 |
| Rated speed rpm : 275 | + Check |
| guide sleeve | + speed 1/min : + 20 |
| travel mm : 2.04 | + |
| Tolerance $max : \leftarrow 0.20$ | + rack travel mm : 0.70 |
| | + Tolerance mm : + 0.70 |
| Rated speed rpm : 399 | + Rated speed rpm : 1275 |
| guide sleeve | + |
| travel mm : 3.39 | + |
| Tolerance mm : + 0.25 | + |
| | |
| | • |

LOW IDLE

Rated speed rpm : 1260

control lever

position degree : 73.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

175 Rated speed rpm :

CRT ma min. :> 7.00

Testing:

Rated speed rpm 275 rack travel mm : 4.50 Tolerance mm : + 0.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm 980 : rack travel mm 14.05 : + - 0.05Tolerance am

: 800 Rated speed rpm rack travel mm 14,05 : + 0.10 Tolerance am

Rated speed rpm 750 13.80 rack travel mm : +- 0.05 Tolerance mm

Rated speed rpm 700 rack travel mm : 13.40 Tolerance am : + 0.10

: 600 Rated speed rpm rack travel mm : 12.80 Tolerance mm : + 0.10

Rated speed rpm : 500 12,45 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 980 Pressure hPa 1500 14.05 rack travel mm : : **←** 0.05 Tolerance mm

980 Rated speed rpm : Pressure hPa rack travel mm : 9.00 Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 980

Pressure hPa : 750 rack travel mm 12.80 : + 0.05Tolerance mm

380 Pressure hPa : rack travel mm 10.30 Tolerance mm : +- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1500 Rated speed rpm : 750 rack travel mm 13.80 : **←** 0.05 Tolerance mm Del. quantity cm3/1000 strokes : 361.0 Tolerance

cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. : +- 6.0 Spreed

Tolerance

cm3/1000 strokes : 10.0 Check tolerance

cm3/1000s.

15.0

Aneroid pressure hPa

Rated speed rpm 600 Del. quantity cm3/1000 strokes : 199.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : **←** 5.0

Spreed Tolerance

cm3/1000 strokes : 10.0

Check tolerance cm3/1000s.

15.0

LOW IDLE

Rated speed rpm : 275

| Rack travel in mm | : | | 4.50 |
|----------------------------|---|----|------|
| Tolerance mm | : | +- | 0.10 |
| Del. quantity | | | 40.0 |
| cm3/1000 strokes | : | | 18.0 |
| Tolerance cm3/1000 strokes | | +- | 3.0 |
| Check tolerance | ٠ | • | 5.0 |
| cm3/1000s. | : | +- | 6.0 |
| Spreed | | | |
| Tolerance | | | |
| cm3/1000 strokes | : | | 6.0 |
| Check tolerance | | | 43.0 |
| cm3/1000s. | : | | 12.0 |

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 402 946 027

Injection pump

Pump designation : PES6P120A320RS8047

EP type number : 0 412 926 029

Governor

Governer design. : RQV275...1250PA1312K

60verner no. : 0 421 815 966

Cust. part No. : CCEP 5160A 66-244

Customer-spec. information

Customer : RENAULT V.I.

Motor : MIDR 06.02.26L71

Power KW : 141.7

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40
Tolerance *C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Overflow quantity

min. L/h : 145 Tolerance L/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.00
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 11.00 Tolerance mm: + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.25

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

m : 21.00

and maximum rack

travel : 11.00 Difference CS : 3.25

| | | + | |
|---|---------------------|-----------------|--|
| CRT ZERO POSITION | <u> </u> | - ‡ | Rated speed guide sleev travel mm Tolerance m |
| Rack travel in me Tolerance mm | | ‡ | Rated speed guide sleev travel mm |
| BASIC SETTING | | _ ‡ | Tolerance m |
| Rated speed rpm | : 1250 | ŧ | Rated speed guide sleev travel mm |
| Del. quantity cm3/1000 strokes | : 183.0 | - <u> </u> | Tolerance m |
| Tolerance cm3/1000 strokes | : + 1.0 | - † + + | Rated speed guide sleev travel mm |
| Check tolerance cm3/1000s. | : ← 4.0 | - I | Tolerance m |
| Spreed | | - ‡ | GUIDE SLEEV |
| Tolerance cm3/1000 strokes | : 5.0 | † | control lev position de Rated speed |
| Check tolerance cm3/1000s. | : 9.0 | - - - | Rack travel |
| Rated speed rpm | : 325 | ‡ | FULL LOAD D |
| Rack travel in mo Tolerance mma Del. quantity | : -7.20 : ← 0.10 | † | Rated speed Aneroid pre hPa |
| cm3/1000 strokes Tolerance | | + | Del. quanti cm3/1000 st |
| cm3/1000 strokes Check tolerance | | ‡ | Tolerance cm3/1000 st |
| cm3/1000s. Spreed Tolerance | : +- 6.0 | Ī | Check toler cm3/1000s. Spreed |
| cm3/1000 strokes Check tolerance | : 8.0 | - | Tolerance cm3/1000 st |
| cm3/1000s. | : 12.0 | + | Check toler cm3/1000s. |
| (B) SETTING OF IN | WECTION PUMP | ‡ | |
| | | - ‡ | CONTROL LEV |
| GUIDE SLEEVE TRAV | /EL | <u>†</u> | control lev position de |
| Rated speed rpm guide sleeve | | + | tolerance d |
| travel mm Tolerance mm | : 9.96 : ← 0.15 | ‡ | RATED SPEED rack travel |

| Rated speed rpm guide sleeve | |
|---|--|
| travel mm Tolerance mm | : 1.52 : + 0.20 |
| Rated speed rpm guide sleeve | : 923 |
| travel mm Tolerance mm | : 6.76 : + 0.25 |
| Rated speed rpm | : 550 |
| guide sleeve | . 7.00 |
| travel mm Tolerance mm | : 3.92 : + 0.25 |
| Rated speed rpm guide sleeve | : 1650 |
| travel mm | : 13.50 |
| Tolerance mm | : ← 0.50 |
| GUIDE SLEEVE POSI | |
| • | |
| control lever position degree Rated speed rpm Rack travel in mmm | : - 1 : 1430 : 11.10 |
| control lever position degree Rated speed rpm | : - 1 : 1430 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm | : - 1 : 1430 : 11.10 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm | : - 1 : 1430 : 11.10 : ← 2.70 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa | : - 1 : 1430 : 11.10 : + 2.70 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | : - 1 : 1430 : 11.10 : + 2.70 Y AT FULL LOAD STOP : 1250 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance | : - 1 : 1430 : 11.10 : + 2.70 Y AT FULL LOAD STOP : 1250 : 1600 : 183.0 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : -1 : 1430 : 11.10 : ← 2.70 Y AT FULL LOAD STOP : 1250 : 1600 : 183.0 : ← 1.0 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : - 1 : 1430 : 11.10 : + 2.70 Y AT FULL LOAD STOP : 1250 : 1600 : 183.0 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | : - 1 : 1430 : 11.10 : + 2.70 Y AT FULL LOAD STOP : 1250 : 1600 : 183.0 : + 1.0 : + 4.0 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed | : -1 : 1430 : 11.10 : ← 2.70 Y AT FULL LOAD STOP : 1250 : 1600 : 183.0 : ← 1.0 |

VER

ver degree : + 4.0

rack travel mm : -1.00

| Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm | : ← 15 : −8.10 : 1470 : ← 5 : −11.60 |
|---|--|
| LOW IDLE | . 1000 |
| control lever position degree tolerance degree | : 241.0 : + 4.0 |
| Setting point w/o | out bumper spring |
| Rated speed rpm | : 200 |
| CRT ma min. | : < -5.80 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | |
| Rated speed rpm rack travel mm | : 325 :> 5.80 |
| TORQUE CONTROL Rated speed rpm | : 1250 |
| Rated speed rpm rack travel mm Tolerance mm | : 650 : −2.10 : ← 0.10 |
| Rated speed rpm rack travel mma Tolerance mma | : 350 : −3.25 : ← 0.25 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa Tolerance mm | : 1250 : 1600 : +- 0.10 |

| rack travel mm Tolerance mm | -4.70 : + 6.20 |
|---|---|
| MEASUREMENT | |
| Rated speed rpm | : 1250 |
| Pressure hPa rack travel mm Tolerance mm | : 240 : −3.40 : ← 0.20 |
| Pressure hPa rack travel mma Tolerance mma | : 520 : -1.20 : + 0.05 |
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 175 : < 240 |
| Check speed 1/min | ; > 155 |
| Check speed 1/min | : < 260 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : 1600 : 650 : 172.0 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes | : 1600 : 650 : 172.0 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : 1600 : 650 : 172.0 : ← 3.0 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa | : 1600 : 659 : 172.0 : + 3.0 : + 6.0 : -3.25 : + 0.25 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity | : 1600 : 659 : 172.0 : + 3.0 : + 6.0 : -3.25 : + 0.25 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm | : 1600 : 659 : 172.0 : + 3.0 : + 6.0 : -3.25 : + 0.25 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes | : 1600 : 659 : 172.0 : + 3.0 : + 6.0 : -3.25 : + 0.25 |

Rated speed rpm : 500

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 113.0
Tolerance
cm3/1000 strokes : 10.0

Check tolerance

cm3/1000s. : \leftarrow 14.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : -7.20
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 39.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0

Check tolerance cm3/1000s.

End of test specification sheet

12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.12.97 : ISO 4113

Combination No. : 0 402 946 028

Injection pump

Pump designation : PES6P120A320RS8047 EP type number : 0 412 926 029

Governor

Governer design. : RQV275...1175PA1312

: -1K

Governer no. : 0 421 815 965

Cust. part No. : CCEP 5161 A 66-245

Customer-spec, information

Customer : RENAULT V.I.

Motor

: MIDR 060226 M71

Power KW

: 158.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

: 40

temp. °C Tolerance °C

: + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar :

Tolerance bar : + 0.1

Overflow quantity

min. L/h : 140 Tolerance l/h : + 20.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

har

: 208.5

Tolerance bar : + 1.5

A21

Test lines : 1 680 750 089

Outside diameter :

8.0

x inside diameter :

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.00 Tolerance mm : ← 0.05

Check

tolerance mm

: **←** 0.10

Rack travel in mm: 11.00

Tolerance mn: + 0.50

Firing order : 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Check

Tolerance : \leftarrow 0.50

tolerance *NW : + 0.75

Start of delivery mark

*NW after s.o.d. : -0.25

Tolerance

: +- 0.50

Check

tolerance *NW

: + 0.75

Barrel no.

: 1

Beginning of delivery differende

betw. rack trav.

: 21.00

and maximum rack

travel

11.00

| Difference * CS | : 3.25 | + Tolerance mm : + 0.15 |
|--|--------------------|--|
| | | + Rated speed rpm : 275 + guide sleeve |
| CRT ZERO POSITION | | t thought the total the to |
| | | Tolerance mm : + 0.20 |
| Rack travel in man Tolerance man | | Rated speed rpm : 893 guide sleeve |
| 1 | | travel mm : 6.60 Tolerance mm : +- 0.25 |
| BASIC SETTING | | + |
| Rated speed rpm | : 1175 | Rated speed rpm : 560 guide sleeve |
| N 1 | | travel mm : 4.01 Tolerance mm : + 0.25 |
| Del. quantity cm3/1000 strokes | : 273.0 | † Toterance in : + U.25 |
| T-1 | | Rated speed rpm : 1650 |
| Tolerance cm3/1000 strokes | . + 10 | guide sleeve |
| | 1.0 | + travel mm : 13.50 + Tolerance mm : + 0.50 |
| Check tolerance | / 0 | † |
| cm3/1000s. | 4.0 | GUIDE SLEEVE POSITION |
| Spreed | | † |
| Tolerance | 5.0 | + control lever |
| cm3/1000 strokes | : 3.0 | position degree : - 1 |
| Check tolerance | | Rated speed rpm : 1420 |
| cm3/1000s. | | + Rack travel in mm : 12.20 |
| | | Tolerance mm : + 2.00 |
| Rated speed rpm | : 275 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Rack travel in mm | : -7.10 | Rated speed rpm : 1175 |
| Tolerance mm | | + Aneroid pressure |
| Del. quantity | | + hPa : 1600 |
| cm3/1000 strokes | | + Del. quantity |
| Tolerance | | + cm3/1000 strokes : 273.0 |
| cm3/1000 strokes | : ← 2.0 | + Tolerance |
| Check tolerance cm3/1000s. | | + cm3/1000 strokes : + 1.0 |
| CM3/TUUUS. | : - 0.0 | Check tolerance |
| Spreed | | cm3/1000s. : +- 4.0 |
| Tolerance cm3/1000 strokes | . 80 | + Spreed + Tolerance |
| Check tolerance | . 6.0 | + cm3/1000 strokes : 5.0 |
| Check tolerance cm3/1000s. | : 12.0 | + Check tolerance |
| | | cm3/1000s. : 9.0 |
| (B) SETTING OF IN | JECTION PUMP | I |
| WITH GOVERNOR | | |
| The state of the s | | CONTROL LEVER |
| GUIDE SLEEVE TRAVE | EL | control lever |
| Datad anned non | . 1270 | position degree : 294.0 |
| Rated speed rpm | : 12/0 | tolerance degree : + 4.0 |
| guide sleeve travel ma | : 9.30 | RATED SPEED |
| | | |

| rack travel man Rated speed rpm Tolerance 1/min fack travel man Rated speed rpm Tolerance 1/min rack travel man Tolerance man Rated speed rpm | : 1255 : + 15 : -9.40 : 1431 : + 5 : -12.90 | +++++++++++++++++++++++++++++++++++++++ | MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm | : 320 : -4.00 : ← 0.20 : 560 : -2.40 |
|---|--|---|--|--|
| LOUITOUE | | | Start interlock | |
| LOW IDLE | | , † † | Rated speed rpm Rated speed rpm | : > 175 : < 240 |
| position degree tolerance degree | | + | Check speed 1/min | : > 155 |
| Testing: | | ‡ | Check speed 1/min | : < 260 |
| Rated speed rpm rack travel man Tolerance man | : -7.10 | † † † | FUEL DELIVERY CHA | RACTERISTICS |
| Rated speed rpm | : 200 | ‡ | Aneroid pressure | . 1600 |
| CRT mm max. | : > -6.40 | + | hPa Rated speed rpm | : 650 |
| Rated speed rpm | : 390 | Ŧ | Del. quantity cm3/1000 strokes Tolerance | |
| TORQUE CONTROL Rated speed rpm | : 1175 | ‡ | cm3/1000 strokes Check tolerance cm3/1000s. | |
| Rated speed rpm rack travel mm Tolerance mm | : 650 : -1.75 : + 0.10 | + | rack travel mm Tolerance mm | : -3.00 : ← 0.25 |
| Rated speed rpm rack travel mm Tolerance mm | : -3.00 | <u>+</u> | Aneroid pressure hPa Rated speed rpm Del. quantity | : - : 500 |
| ANEROID/ALTITUDE COMPENSATOR TEST | | | cm3/1000 strokes Tolerance cm3/1000 strokes | |
| SETTING | | <u>‡</u> | Check tolerance cm3/1000s. | : + 4.0 |
| Rated speed rpm Pressure hPa | | Ţ | | |
| Rated speed rpm Pressure hPa | : - | ‡ | STARTING FUEL DEL Rated speed rpm | |
| rack travel mm Tolerance mm | : −5.50 : + 0.20 | ‡ | Del. quantity cm3/1000 strokes | |

Tolerance cm3/1000 strokes : \(\to \) 10.0 Check tolerance cm3/1000s. : \(\to \) 14.0

LOW IDLE

Rated speed rpm : 275 Rack travel in mm: -7.10 : **←** 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 45.0 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : **←** 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 244 032

Injection pump

Pump designation : PES4MW100/720RS1519

: -2

EP type number : 0 413 204 017

Governor

Governer design. : RQV300...1300MW132

: -1

Governer no. : 0 420 083 292

Cust. part No. : 0240741102

Customer—spec. information Customer : MB-NFZ Motor : 0M364LA Power KW : 103.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

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REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.00 Tolerance mm : +- 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.60

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 123.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

| Tolerance | • |
|--|--|
| cm3/1000 strokes : 5.0 | Rated speed rpm : 1596 |
| the food befores . | - guide sleeve |
| Check tolerance | travel mm : 12.00 |
| cm3/1000s. : 8.0 | Tolerance mm : + 0.25 |
| · 0.0 | 10 cc 1 c |
| ************************************** | Rated speed rpm : 1690 |
| | - guide sleeve |
| Rated speed rpm : 300 | - travel mm : 13.50 |
| | - Tolerance am : + 0.50 |
| Rack travel in mm : 3.90 | - |
| Tolerance mm : + 0.10 | |
| Del. quantity | - GUIDE SLEEVE POSITION |
| cm3/1000 strokes : 12.0 | - |
| Tolerance - | • |
| cm3/1000 strokes : +- 2.0 | - control lever |
| Check tolerance | - position degree : VL |
| cm3/1000s. : +- 4.5 | |
| Spreed | control lever |
| Tolerance | position degree : 121 |
| cm3/1000 strokes : 2.0 | - Rated speed rpm : 1500 |
| Check tolerance | , |
| cm3/1000s. : 4.0 - | Rack travel in mm: 10.00 |
| 1 | Tolerance mm : +- 2.00 |
| (D) CETTING OF THE FORTON DUMP | |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | SINI I DAN NELTUENY AT FULL LOAN GEOR |
| MILL GOAELDANK | FULL LOAD DELIVERY AT FULL LOAD STOP |
| | Rated speed rpm : 1300 |
| GUIDE SLEEVE TRAVEL | - Aneroid pressure |
| GOTOC OFFICE LIMATE | |
| <u>i</u> | L hPs • 1200 |
| Rated speed rom : 1354 | hPa : 1200 |
| Rated speed rpm : 1354 - | Del. quantity |
| guide sleeve | Del. quantity cm3/1000 strokes : 123.0 |
| guide sleeve - travel mi : 7.77 - | Del. quantity - cm3/1000 strokes : 123.0 Tolerance |
| guide sleeve | Del. quantity - cm3/1000 strokes : 123.0 - Tolerance - cm3/1000 strokes : +- 1.0 |
| guide sleeve travel mm : 7.77 - Tolerance mm : + 0.25 - | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance |
| guide sleeve travel mm : 7.77 - Tolerance mm : + 0.25 - | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance |
| guide steeve travel mm : 7.77 - Tolerance mm : + 0.25 - Rated speed rpm : 300 - | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 |
| guide steeve travel mm : 7.77 - Tolerance mm : + 0.25 - Rated speed rpm : 300 - guide steeve - | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| guide steeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide steeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide steeve travel mm : 5.95 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve travel mm : 3.15 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever position degree : 116.0 |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 Rated speed rpm : 679 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 Rated speed rpm : 679 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 Rated speed rpm : 679 guide sleeve travel mm : 3.45 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.60 Rated speed rpm : 1345 |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 Rated speed rpm : 679 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 Rated speed rpm : 679 guide sleeve travel mm : 3.45 Tolerance mm : 3.45 Tolerance mm : + 0.25 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.60 Rated speed rpm : 1345 Tolerance 1/min : + 5 |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 Rated speed rpm : 679 guide sleeve travel mm : 3.45 Tolerance mm : + 0.25 Rated speed rpm : 3.45 Tolerance mm : + 0.25 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER CONTROL LEVER CONTROL LEVER ATED SPEED rack travel mm : 12.60 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 Rated speed rpm : 679 guide sleeve travel mm : 3.45 Tolerance mm : + 0.25 Rated speed rpm : 3.45 Tolerance mm : + 0.25 Rated speed rpm : 3.45 Tolerance mm : + 0.25 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER CONTROL LEVER Control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.60 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1460 |
| guide sleeve travel mm : 7.77 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.91 Tolerance mm : + 0.25 Rated speed rpm : 1150 guide sleeve travel mm : 5.95 Tolerance mm : + 0.25 Rated speed rpm : 629 guide sleeve travel mm : 3.15 Tolerance mm : + 0.25 Rated speed rpm : 679 guide sleeve travel mm : 3.45 Tolerance mm : + 0.25 Rated speed rpm : 3.45 Tolerance mm : + 0.25 | Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER CONTROL LEVER CONTROL LEVER ATED SPEED rack travel mm : 12.60 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 |

| rack travel mm Tolerance mm Rated speed rpm | : ← 0.50 |
|---|-------------------------------|
| LOW IDLE | |
| control lever position degree tolerænce degree | : 71.0 : + 4.0 |
| Setting point w/o | out bumper spring |
| Rated speed rpm | : 200 |
| CRT mm min. | : > 4.50 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 3.90 : ← 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1300 : 13.60 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 600 : 13.60 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 1200 |
| Rated speed rpm Pressure hPa Tolerance mm | : 500 : - : + 0.10 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 600 : 2.00 : + 0.10 |

| Pressure hPa rack travel mm Tolerance mm | : 350 : 0.50 : +- 0.10 |
|--|---------------------------------------|
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 100 : < 200 |
| Check speed 1/min Check | : > 80 |
| speed 1/min | : < 220 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure | : 1200 |
| Rated speed rpm | |
| Del. quantity cm3/1000 strokes | : 121.0 |
| Tolerance cm3/1000 strokes | : ← 2.0 |
| Check tolerance cm3/1000s. | : ← 5.0 |
| Spreed Tolerance | 4.0 |
| cm3/1000 strokes Check tolerance | : 6.0 |
| cm3/1000s. | : 9.0 |
| Aneroid pressure | · · · · · · · · · · · · · · · · · · · |
| hPa Rated speed rpm | 500 |
| Del. quantity cm3/1000 strokes | : 67.0 |
| Tolerance cm3/1000 strokes | : + 1.0 |
| Check tolerance cm3/1000s. | : ← 3.0 |
| | |
| STARTING FUEL DEL | IVERY |
| Rated speed rpm | : 100 |
| Del. quantity cm3/1000 strokes | : 150.0 |
| Tolerance cm3/1000 strokes | : +- 5.0 |
| Check tolerance cm3/1000s. | : ← 8.0 |
| | |

LOW IDLE

| Rated speed rpm | : | 300 |
|-------------------------------|-----|----------------|
| Rack travel in man | - | 3.90 |
| Tolerance mm Del. quantity | : - | ⊢ 0.10 |
| cm3/1000 strokes | : | 12.0 |
| Tolerance cm3/1000 strokes | : - | ⊢ 2.0 |
| Check tolerance cm3/1000s. | : - | ⊦- 4. 5 |
| Spreed Tolerance | | |
| cm3/1000 strokes | : | 2.0 |
| Check tolerance cm3/1000s. | • | 4.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 : ISO 4113 Test oil

Combination No. : 0 403 244 033

Injection pump

Pump designation : PES4MW100/720RS1519

: -2

EP type number : 0 413 204 017

Governor

Governer design. : RQV300...1300MW132

: 0 420 083 292 Governer no.

Cust. part No. : 0240748202

Customer-spec. information Customer : MB-NFZ Motor : 0M364LA

Power KW : 103.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance *C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

208.5 bar Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm Tolerance mm : **←** 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.00 Tolerance mm : +- 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 13.60

: +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 123.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

: + 4.0 cm3/1000s.

Spreed

| Tolerance | | + |
|----------------------------------|---|---|
| cm3/1000 strokes | : 5.0 | Rated speed rpm : 1596 |
| Charle dalaments | | guide sleeve |
| Check tolerance cm3/1000s. | : 8.0 | travel mm : 12.00 Tolerance mm : + 0.25 |
| CM37 10003. | . 6.0 | Toterance may : +- 0.25 |
| | *************************************** | Rated speed rpm : 1690 |
| | - | guide sleeve |
| Rated speed rpm | : 300 | travel mm : 13.50 |
| Dool Angual da am | . 7.00 | Tolerance mm : + 0.50 |
| Rack travel in man Tolerance man | | |
| Del. quantity | . , 0.10 | GUIDE SLEEVE POSITION |
| cm3/1000 strokes | : 12.0 | - |
| Tolerance | - | } |
| cm3/1000 strokes | : - 2.0 | control lever |
| Check tolerance | | position degree : VL |
| cm3/1000s. Spreed | : + 4.5 | t control lever |
| Tolerance | _ | position segree : 121 |
| cm3/1000 strokes | : 2.0 | Rated speed rpm : 1500 |
| Check tolerance | <u>.</u> | <u>, </u> |
| cm3/1000s. | : 4.0 | Rack travel in mm : 10.00 |
| | + | Tolerance mm : +- 2.00 |
| (B) SETTING OF INJ | FCTTON PHMP | |
| WITH GOVERNOR | 2012014 1 011 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| | - | - |
| * | | Rated speed rpm : 1300 |
| GUIDE SLEEVE TRAVE | :L - | Aneroid pressure |
| Rated speed rpm | • 135/ | hPa : 1200 Del.quantity |
| guide sleeve | . 1334 | cm3/1000 strokes : 123.0 |
| travel mm | : 7.77 | - Tolerance |
| Tolerance mm | : ← 0.25 | - cm3/1000 strokes : +- 1.0 |
| 0-4-1 | 700 | Check tolerance |
| Rated speed rpm guide sleeve | : 300 | - cm3/1000s. : +- 4.0 |
| travel mm | : 0.91 | - Spreed - Tolerance |
| | : + 0.25 | - cm3/1000 strokes : 5.0 |
| | + | - Check tolerance |
| | : 1150 | - cm3/1000s. : 8.0 |
| guide sleeve travel mm | : 5.95 | - |
| | : + 0.25 | |
| | 1 | - CONTROL LEVER |
| | : 629 | • |
| guide sleeve | | - control lever |
| travel mm | 3.15 | - position degree : 116.0 |
| Tolerance mm | : ← 0.25 | - tolerance degree : +- 4.0 |
| Rated speed rpm | : 679 | - RATED SPEED |
| guide sleeve | 4 | rack travel mm : 12.60 |
| travel mm | : 3.45 | - Rated speed rpm : 1345 |
| Tolerance mm | : ← 0.25 | Tolerance 1/min : +- 5 |
| Rated speed rpm | : 820 | - rack travel mm : 4.00 |
| guide sleeve | . 525 | Rated speed rpm : 1460 |
| travel mm | : 4.09 | Tolerance 1/min : +- 15 |
| Tolerance mm | : + 0.25 | |
| | | |

| rack travel mm Tolerance mm Rated speed rpm | : ← 0.50 |
|---|--|
| LOW IDLE | |
| control lever position degree tolerance degree | : 71.0 : +- 4.0 |
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 200 |
| CRT mm min. | : > 4.50 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 3.90 : ← 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1300 : 13.60 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 600 : 13.60 : ← 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 1200 : 13.60 : ← 0.05 |
| Rated speed rpm Pressure hPa Tolerance mm | : 500 : - : ← 0.10 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 600 : 2.00 : ← 0.10 |

| Pressure hPa rack travel mm Tolerance mm | : 350 : 0.50 : + 0.10 |
|--|-----------------------------|
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 100 : < 200 |
| Check speed 1/min Check | : > 80 |
| speed 1/min | : < 220 |
| FUEL DELIVERY CHA | ARACTERISTICS |
| Aneroid pressure | . 1200 |
| hPa Rated speed rpm | : 1200 : 600 |
| Del. quantity cm3/1000 strokes Tolerance | : 121.0 |
| cm3/1000 strokes Check tolerance | : + 2.0 |
| cm3/1000s. Spreed | : ← 5.0 |
| Tolerance cm3/1000 strokes | : 6.0 |
| Check tolerance cm3/1000s. | : 9.0 |
| Aneroid pressure | <u> </u> |
| hPa Rated speed rpm Del. quantity | : - : 500 |
| cm3/1000 strokes Tolerance | : 67.0 |
| cm3/1000 strokes Check tolerance | : +- 1.0 |
| cm3/1000s. | : - 3.0 |
| STARTING FUEL DEL | IVERY |
| Rated speed rpm Del. quantity | : 100 |
| cm3/1000 strokes Tolerance | : 150.0 |
| cm3/1000 strokes Check tolerance | : ← 5.0 |
| cm3/1000s. | : +- 8.0 |
| | |

LOW IDLE

| Rated speed rpm | : | 300 | |
|--|-----|--------------|--|
| Rack travel in man Tolerance man Del. quantity | • | 3.90 0.10 | |
| cm3/1000 strokes Tolerance | : | 12.0 | |
| cm3/1000 strokes Check tolerance | : + | 2.0 | |
| cm3/1000s. Spreed | : + | 4.5 | |
| Tolerance cm3/1000 strokes | : | 2.0 | |
| Check tolerance cm3/1000s. | : | 4.0 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : ISO 4113

Combination No. : 0 403 244 034

Injection pump

Pump designation : PES4MW100/720RS1519

: -3

EP type number

: 0 413 204 018

Governor

Governer design. : RQV300...1300MW132

: -3

Governer no.

: 0 420 083 296

Cust. part No. : 0240740702

Customer spec. information : MB-NFZ Customer

Motor

: 0M364LA

Power KW

: 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +-2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar

: **←** 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter:

3.0

x Length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 4.55 Tolerance mm : + 0.50

Check

tolerance mm : + 0.10

Rack travel in mm: 20.00

Tolerance mm : +- 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 11.15

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes :

87.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: **←** 3.0

Spreed

| Tolerance + | |
|--|--|
| cm3/1000 strokes : 4.5 | - - Rated speed rpm : 1596 |
| 4.5 | guide sleeve |
| Check tolerance | travel mm : 12.00 |
| cm3/1000s. : 7.0 | Tolerance mm : + 0.25 |
| , , , , | |
| | Rated speed rpm : 1690 |
| 4 | guide sleeve |
| Rated speed rpm : 300 | travel mm : 13.50 |
| + | Tolerance mm : + 0.50 |
| Rack travel in mm : 4.00 | • |
| Tolerance mm : + 0.10 | |
| Del. quantity | GUIDE SLEEVE POSITION |
| cm3/1000 strokes : 12.0 | |
| Tolerance | |
| cm3/1000 strokes : + 2.0 | control lever |
| Check tolerance | position degree : 120 |
| cm3/1000s. : + 4.5 Spreed | Rated speed rpm : 1500 |
| Tolerance + | Pack that of the man and 10 00 |
| cm3/1000 strokes : 2.0 | Rack travel in mm : 10.00 Tolerance mm : +- 2.00 |
| Check tolerance | TOLET CHILE THEN TO C.UU |
| cm3/1000s. : 4.0 | |
| T.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| 1 | - SEE COMP SEELICKY AT TOLK COMP STOP |
| (B) SETTING OF INJECTION PUMP | Rated speed rpm : 1300 |
| WITH GOVERNOR | Aneroid pressure |
| + | hPa : 700 |
| | Del. quantity |
| GUIDE SLEEVE TRAVEL | cm3/1000 strokes : 87.0 |
| | Tolerance |
| Rated speed rpm : 1345 + | cm3/1000 strokes : \leftarrow 1.0 |
| guide sleeve | Check tolerance |
| travel mm : 7.64 | cm3/1000s. : +- 3.0 |
| Tolerance mm : + 0.25 + | Spreed |
| Peted speed ppp - 700 | Tolerance |
| Rated speed rpm : 300 | cm3/1000 strokes : 4.5 |
| guide sleeve + travel mm : 0.91 + | Check tolerance cm3/1000s. : 7.0 |
| Tolerance mm : + 0.25 | CMS/10005. : 7.0 |
| TOTAL CHARACTURE TOTAL CONTRACTOR TOTAL CONTRACTOR CONT | |
| Rated speed rpm : 1140 | |
| guide sleeve | CONTROL LEVER |
| travel mm : 5.88 | THE SECTION SECTION |
| Tolerance mm : +- 0.25 | control lever |
| + | position degree : 112.0 |
| Rated speed rpm : 629 | tolerance degree : + 4.0 |
| guide sleeve | • |
| travel mm : 3.15 Tolerance mm : + 0.25 | RATED SPEED |
| Tolerance mm : \leftarrow 0.25 $+$ | rack travel mm : 10.10 Rated speed rpm : 1345 |
| + | Rated speed rpm : 1345 |
| Rated speed rpm : 679 | Tolerance 1/min : +- 5 |
| guide steeve | mode Annual III (20 |
| travel mm : 3.53 | rack travel mm : 4.00 Rated speed rpm : 1435 |
| Tolerance mm : + 0.25 | kated speed rpm : 7435 |
| Rated speed rpm : 800 | Tolerance 1/min : + 15 |
| | rack traval ma . 0.50 |
| guide sleeve + travel mm : 4.00 + | rack travel mm : 0.50 Tolerance mm : +- 0.50 |
| Tolerance ram : + 0.25 | Rated speed rpm : 1550 |
| 1000 mm 0.L) T | Marca speed i pili . 1990 |
| pΩζ | |

LOW IDLE

control lever

position degree : 70.0 tolerance degree : +

Setting point w/out bumper spring

Rated speed rpm : 200

CRT me min. : > 4.50

Testing:

Rated speed rom 300 rack travel mm 4.00 : **←** 0.10 Tolerance mm

TORQUE CONTROL

Rated speed rpm : 1300 11.15 rack travel mm Tolerance and : **←** 0.05

Rated speed rpm 750 : rack travel mm 11.15 Tolerance name : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 500 Pressure hPa 700 11.15 rack travel mm Tolerance mm : ← 0.05

Rated speed rpm 500 Pressure hPa : + 0.10Tolerance mm

MEASUREMENT

500 Rated speed rpm

230 Pressure hPa rack travel mm 0.20 : + 0.10Tolerance mm

Start interlock

Rated speed rpm :> 100 Rated speed rpm 200 : <

Check

speed 1/min : > 80

Check

speed 1/min 220 : <

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

700 Rated speed rpm 750

Del. quantity

cm3/1000 strokes : 79.0 Tolerance

cm3/1000 strokes : +-1.5 Check tolerance

cm3/1000s.4.0 Spreed

Tolerance

cm3/1000 strokes : 6.0 Check tolerance

cm3/1000s. 9.0

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity cm3/1000 strokes : 67.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

3.0

Check tolerance cm3/1000s.: +-

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes : +-5.0

Check tolerance

cm3/1000s.: +-8.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 4.00 Tolerance mm : + 0.10

| Del. quantity cm3/1000 strokes Tolerance | : | 12.0 |
|--|------|------|
| cm3/1000 strokes | : +- | 2.0 |
| Check tolerance | | |
| cm3/1000s. | : +- | 4.5 |
| Spreed | | |
| Tolerance | | |
| cm3/1000 strokes | : | 2.0 |
| Check tolerance | | |
| cm3/1000S. | : | 4.0 |
| | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) \$400/...

: 15,12,97 Edition : ISO 4113 Test oil

Combination No. : 0 403 244 035

Injection pump

Pump designation : PES4MW100/720RS1519

: -3

EP type number : 0 413 204 018

Governor

6overner design. : RQV300...1300MW132

: -3

Governer no. : 0 420 083 296

Cust. part No. : 0240740802

Customer-spec. information Customer : MB-NFZ Motor : 0M364LA Power KW 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar $: \leftarrow 1.5$

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : 4.55 Tolerance mm : +- 0.05 Check : +- 0.10

tolerance mm

Rack travel in mm: 20.00 Tolerance mm : +- 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance *NW : \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 11.15

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 87.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : + 3.0

| Tolerance | <u>+</u> | |
|----------------------------------|----------------|--------------------------------------|
| cm3/1000 strokes : 4 | .5 + | Rated speed rpm : 1596 |
| | | guide sleeve |
| Check tolerance | 1 | travel mm : 12.00 |
| cm3/1000s. : 7 | .0 1 | Tolerance mm : + 0.25 |
| | 1 | |
| | | Rated speed rpm : 1690 |
| | 1 | guide sleeve |
| Rated speed rpm : 300 | 1 | travel mm : 13.50 |
| naced opeca (pii : 500 | I | Tolerance mm : +- 0.50 |
| Rack travel in mm : 4.0 | m I | roterance min . +- U.JU |
| Tolerance ma : + 0. | | |
| Del. quantity | '° T | CHINE SI FEVE POSITION |
| cm3/1000 strokes : 12. | o T | GUIDE SLEEVE POSITION |
| Tolerance | ." | |
| | • † | |
| cm3/1000 strokes : + 2. | ., † | control lever |
| Check tolerance | | position degree : 120 |
| cm3/1000s. : +- 4. | ·5 † | Rated speed rpm : 1500 |
| Spreed | + | |
| Tolerance | + | Rack travel in mm : 10.00 |
| cm3/1000 strokes : 2. | .u + | Tolerance mm : +- 2.00 |
| Check tolerance | _ + | |
| cm3/1000s. : 4. | .0 + | |
| | + | FULL LOAD DELIVERY AT FULL LOAD STOP |
| | + | |
| (B) SETTING OF INJECTION PL | MP + | Rated speed rpm : 1300 |
| WITH GOVERNOR | + | Aneroid pressure |
| | + | hPa : 700 |
| | | Del. quantity |
| GUIDE SLEEVE TRAVEL | + | cm3/1000 strokes : 87.0 |
| | + | Tolerance |
| Rated speed rpm : 1345 | | cm3/1000 strokes : + 1.0 |
| guide sleeve | 1 | Check tolerance |
| travel mm : 7.6 | 4 | cm3/1000s. : + 3.0 |
| Tolerance mm : + 0.2 | | Spreed |
| | 1 | Tolerance |
| Rated speed rpm : 300 | 1 | cm3/1000 strokes : 4.5 |
| guide sleeve | 1 | Check tolerance |
| travel mm : 0.9 | 1 | cm3/1000s. : 7.0 |
| Tolerance mm : + 0.2 | | . 7.8 |
| . · U.2 | I | |
| Rated speed rpm : 1140 | Ţ | |
| guide sleeve | T | CONTROL LEVER |
| travel mm : 5.8 | g I | CONTROL LEVER |
| Tolerance n_0 : + 0.2 | | control lever |
| Toter affice that | ⁷ T | |
| Rated speed rpm : 629 | T | position degree : 112.0 |
| | Ť | tolerance degree : +- 4.0 |
| guide sleeve | _ | DATES COFFE |
| travel mm : 3.1 | | RATED SPEED |
| Tolerance mm : \leftarrow 0.2 | ³ † | rack travel mm : 10.10 |
| Detect aread are | † | Rated speed rpm : 1345 |
| Rated speed rpm : 679 | † | Tolerance 1/min : +- 5 |
| guide sleeve | _ | |
| travel mm : 3.5 | | rack travel mm : 4.00 |
| Tolerance was $: \leftarrow 0.2$ | · | Rated speed rpm : 1435 |
| | + | Tolerance 1/min : + 15 |
| Rated speed rpm : 800 | + | |
| guide sleeve | _ + | rack travel mm : 0.50 |
| travel mm : 4.00 | | Tolerance mm : +- 0.50 |
| Tolerance mm : + 0.2 | 5 + | Rated speed rpm : 1550 |
| - 40 | | |
| D10 | | |

LOW IDLE

control lever

position degree : 70.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 4.50

Testing:

Rated speed rpm : 300 rack travel mm : 4.00 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1300 rack travel mm : 11.15 Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 11.15
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.15
Tolerance mm : ← 0.05

Rated speed rpm : 500
Pressure hPa : Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 230 rack travel mm : 0.20 Tolerance mm : + 0.10

Start interlock

Rated speed rpm :> 100 Rated speed rpm :< 200

Check

speed 1/min : > 80 Check speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 700 Rated speed rpm : 750 Del. quantity

cm3/1000 strokes : 79.0

Tolerance

cm3/1000 strokes : + 1.5 Check tolerance

cm3/1000s. : +- 4.0 Spreed

Tolerance

cm3/1000 strokes : 6.0 Check tolerance

cm3/1000s. : 9.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 67.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes : \leftarrow 5.0

Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 4.00 Tolerance mm : + 0.10

| Del. quantity cm3/1000 strokes | : | 12.0 |
|--|----------------|------|
| Tolerance cm3/1000 strokes Check tolerance | : - | 2.0 |
| cm3/1000s. Spreed | : - | 4.5 |
| Tolerance cm3/1000 strokes | : | 2.0 |
| Check tolerance cm3/1000s. | : | 4.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15,12,97 Edition Test oil : ISO 4113

Combination No. : 0 403 244 036

Injection pump

Pump designation : PES4MW100/720RS1519

: -3

EP type number : 0 413 204 018

Governor

6overner design. : RQV300...1300MW132

: -5

: 0 420 083 308 Governer no.

Cust. part No. : 0240740902

Customer-spec. information

Customer : MB-NFZ Motor : 0M364LA Power KW : 77.0

TEST BENCH REQUIREMENTS Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : ← 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm: 20.00 Tolerance mm : **←** 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance Check

: **←** 0.50

tolerance *NW

: +- 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 11.15 Tolerance mm: $\leftarrow 0.05$

Del. quantity

cm3/1000 strokes : 87.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +-3.0

| Tolerance | 1 |
|--|--|
| cm3/1000 strokes : 4.5 | Rated speed rpm : 1596 |
| | guide sleeve |
| Check tolerance | travel mm : 12.00 |
| cm3/1000s. : 7.0 | + Tolerance mm : + 0.25 |
| | + |
| | Rated speed rpm : 1690 |
| | duide sleeve |
| Rated speed rpm : 300 | + travel mm : 13.50 |
| | Tolerance mm : +- 0.50 |
| Rack travel in mm: 4.00 | } |
| Tolerance mm : + 0.10 | |
| Del. quantity | + GUIDE SLEEVE POSITION |
| cm3/1000 strokes : 12.0 | + |
| Tolerance | + |
| cm3/1000 strokes : + 2.0 | † control lever |
| Check tolerance | position degree : 120 |
| $cm3/1000s.$: \leftarrow 4.5 | Rated speed rpm : 1500 |
| Spreed | + |
| Tolerance | + Rack travel in mm : 10.00 |
| cm3/1000 strokes : 2.0 | Tolerance mm : +- 2.00 |
| Check tolerance | + |
| cm3/1000s. : 4.0 | |
| • | FULL LOAD DELIVERY AT FULL LOAD STOP |
| (D) OFFICE OF THE OFFICE DIME | † |
| (B) SETTING OF INJECTION PUMP | Rated speed rpm : 1300 |
| WITH GOVERNOR | Aneroid pressure |
| • | hPa : 700 |
| CITAL CIEDIE TRAVE | Del. quantity |
| GUIDE SLEEVE TRAVEL | cm3/1000 strokes : 87.0 |
| Dated aread non a 1757 | Tolerance |
| Rated speed rpm : 1353 | cm3/1000 strokes : + 1.0 |
| guide sleeve - travel mm : 7.76 - | Check tolerance |
| travel mm : 7.76 - Tolerance mm : + 0.25 - | cm3/1000s. : + 3.0 |
| roterance min : - U.O | Spreed |
| Rated speed rpm : 300 | Tolerance : 4.5 |
| guide sleeve - | cm3/1000 strokes : 4.5 Check tolerance |
| travel mm : 0.91 | 7.4000 |
| Tolerance mm : + 0.25 | - cm3/1000s. : 7.0 |
| TOTAL CHIEF THE STATE OF THE ST | |
| Rated speed rpm : 1140 | |
| guide sleeve | CONTROL LEVER |
| travel non : 5.88 | |
| Tolerance mm : + 0.25 | - control lever |
| | position degree : 112.0 |
| Rated speed rpm : 629 | tolerance degree : + 4.0 |
| guide sleeve | |
| travel mm : 3.15 | - RATED SPEED |
| Tolerance mm : + 0.25 | rack travel mm : 10.10 |
| | - Rated speed rpm : 1345 |
| Rated speed rpm : 679 | Tolerance 1/min : + 5 |
| guide sleeve | - |
| travel mm : 3.53 | - rack travel mm : 4.00 |
| Tolerance mm : + 0.25 | - Rated speed rpm : 1435 |
| <u> </u> | - Tolerance 1/min : + 15 |
| Rated speed rpm : 800 | |
| guide sleeve | - rack travel mm : 0.50 |
| travel mm : 4.00 | - Tolerance mm : + 0.50 |
| Tolerance m_0 : $\leftarrow 0.25$ | |
| Toterative into . T U.25 | - Rated speed rpm : 1550 |

LOW IDLE

control lever

position degree : 70.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 4.50

Testing:

Rated speed rpm : 300 rack travel mm : 4.00 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1300 rack travel mm : 11.15 Tolerance mm : + 0.05

Rated speed rpm : 750 rack travel mm : 11.15 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.15
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 230 rack travel mm : 0.20 Tolerance mm : + 0.10

Start interlock

Rated speed rpm :> 100 Rated speed rpm :< 200

Check

speed 1/min :> 80

Check

speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 700 Rated speed rpm : 750

Del. quantity cm3/1000 strokes : 79.0

Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 4.0

Spreed Tolerance

cm3/1000 strokes : 6.0 Check tolerance

cm3/1000s. : 9.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 67.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : + 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes : +- 5.0

Check tolerance

cm3/1000s. : + 8.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 4.00 Tolerance mm : + 0.10

| Del. quantity cm3/1000 strokes | : | 12.0 |
|--|---------------|------|
| Tolerance cm3/1000 strokes Check tolerance | : | 2.0 |
| cm3/1000s. Spreed | : +- | 4.5 |
| Tolerance cm3/1000 strokes Check tolerance | : | 2.0 |
| cm3/1000s. | : | 4.0 |

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 244 036A

Injection pump

Pump designation : PES4MW100/720RS1519

: -3

EP type number : 0 413 204 018

Governor

Governer design. : RQV300...1300MW132

6overner no. : 0 420 083 308

Cust. part No. : 0240740902

Customer—spec. information Customer : MB-NFZ Motor : 0M364LA Power KW : 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40
Tolerance *C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1270

Rack travel in mm : 11.15
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 87.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

| Tolerance cm3/1000 strokes : 4.5 | t |
|--|--|
| | GUIDE SLEEVE POSITION |
| Check tolerance cm3/1000s. : 7.0 | ‡ |
| | the control lever to position degree : VL |
| Octod annual sure 700 | + |
| Rated speed rpm : 300 | control lever position degree : 115 |
| Rack travel in mm : 4.00 Tolerance mm : + 0.10 | Rated speed rpm : 1500 |
| Del. quantity | Rack travel in mm: 10.00 |
| cm3/1000 strokes : 12.0 Tolerance | Tolerance mm : + 2.00 |
| cm3/1000 strokes : +- 2.0 | |
| Check tolerance cm3/1000s. : +- 4.5 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Spreed Tolerance | Rated speed rpm : 1270 |
| cm3/1000 strokes : 2.0 | Aneroid pressure + hPa : 700 |
| Check tolerance cm3/1000s. : 4.0 | + Del. quantity + cm3/1000 strokes : 87.0 |
| . 4.0 | Tolerance |
| (B) SETTING OF INJECTION PUMP | + cm3/1000 strokes : + 1.0 + Check tolerance |
| WITH GOVERNOR | + cm3/1000s. : $+$ 3.0 |
| | + Spreed + Tolerance |
| GUIDE SLEEVE TRAVEL | cm3/1000 strokes : 4.5 Check tolerance |
| Rated speed rpm : 1353 | cm3/1000s. : 7.0 |
| guide sleeve travel mm : 7.02 | ‡ |
| Tolerance mm : + 0.15 | CONTROL LEVE |
| Rated speed rpm : 300 | + CONTROL LEVER |
| guide sleeve trayeimm : 0.91 | + control lever + position degree : 111.0 |
| Tolerance mm : + 0.20 | tolerance degree : +- 4.0 |
| Rated speed rpm : 1090 | + RATED SPEED |
| guide sleeve travel mm : 5.21 | + rack travel mm : 10.10 + Rated speed rpm : 1310 |
| Tolerance mm : + 0.25 | Tolerance 1/min : +- 10 |
| Rated speed rpm : 790 | + rack travel mm : 4.00 |
| guide sleeve | Rated speed rpm : 1445 |
| travel mm : 3.98 Tolerance mm : +- 0.25 | + Tolerance 1/min : + 5 |
| Rated speed rpm : 1759 | + rack travel mm : 0.50 + Tolerance mm : +- 0.50 |
| guide sleeve : 12.00 | Rated speed rpm : 1550 |
| Tolerance min : + 0.25 | - |
| Rated speed rpm : 1870 | <u> </u> |
| guide sleeve travel mm : 13.50 | LOW IDLE |
| Tolerance mm : + 0.50 | 1 |

| control lever position degree tolerance degree | : 74.0 : + 4.0 |
|---|---------------------------------------|
| Setting point w/ | out bumper spring |
| Rated speed rpm | : 200 |
| CRT mm min. | : > 4.70 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 4.00 : ← 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1270 : 11.15 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 750 : 11.15 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 700 : 11.15 : ← 0.05 |
| Rated speed rpm Pressure hPa Tolerance mm | : 500 : - : ← 0.10 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 230 : 0.20 : + 0.10 |
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 100 : < 200 |
| Check speed 1/min | |

| Check speed 1/min | : < 220 |
|---|----------------|
| FUEL DELIVERY CH | ARACTERISTICS |
| Aneroid pressure hPa Rated speed rpm Del. quantity | : 700 : 750 |
| cm3/1000 strokes Tolerance | : 79.0 |
| cm3/1000 strokes Check tolerance | : +- 1.5 |
| cm3/1000s. Spreed Tolerance | : +- 4.0 |
| cm3/1000 strokes Check tolerance | : 6.0 |
| cm3/1000s. | : 9.0 |
| Aneroid pressure hPa Rated speed rpm | : - : 500 |
| Del. quantity cm3/1000 strokes Tolerance | : 67.0 |
| cm3/1000 strokes Check tolerance | : +- 1.0 |
| cm3/1000s. | : +- 3.0 |
| STARTING FUEL DEL | IVERY |
| Rated speed rpm Del. quantity | : 100 |
| cm3/1000 strokes Tolerance | : 125.0 |
| cm3/1000 strokes Check tolerance | : +- 5.0 |
| cm3/1000s. | : + 8.0 |
| LOW IDLE | |
| Rated speed rpm | : 300 |
| Rack travel in mom Tolerance mom Del. quantity | : + 0.10 |
| cm3/1600 strokes Tolerance | |
| cm3/1000 strokes Check tolerance | |
| cm3/1000s. | : + 4.5 |

Spreed
Tolerance
cm3/1000 strokes : 2.0

Check tolerance cm3/1000s.

: 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.12.97 : ISO 4113

Combination No. : 0 403 244 038

Injection pump

Pump designation : PES4MW100/720RS1519

: -3

EP type number : 0 413 204 018

Governor

Governer design. : RQV300...1200MW132

: -7

Governer no.

: 0 420 083 312

Cust. part No. : 0250748302

Customer-spec. information

Customer : MB-NFZ Mator

: 0M364LA

Power KW

: 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 11.15

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 87.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: **←** 3.0

| Tolerance cm3/1000 strokes : 4.5 | † |
|---|--|
| | GUIDE SLEEVE POSIT ON |
| Check tolerance cm3/1000s. : 7.0 | ‡ |
| | rontrol lever position degree : 121 |
| Date di anno di anno 200 | Rated speed rpm : 1450 |
| Rated speed rpm : 300 | + Rack travel in mm : 11.00 |
| Rack travel in mm : 4.00 Tolerance mm : +- 0.10 | † Tolerance mm : + 2.00 |
| Del. quantity cm3/1000 strokes : 12.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance cm3/1000 strokes : +- 2.0 | + |
| Check tolerance | + Rated speed rpm : 1200 + Aneroid pressure |
| cm3/1000s. : +- 4.5 Spreed | + hPa : 700 + Del. quantity |
| Tolerance cm3/1000 strokes : 2.0 | - cm3/1000 strokes : 87.0 - Tolerance |
| Check tolerance | + cm3/1000 strokes : +- 1.0 |
| cm3/1000s. : 4.0 | + Check tolerance + cm3/1000s. : + 3.0 |
| (B) SETTING OF INJECTION PUMP | + Spreed + Tolerance |
| WITH GOVERNOR | + cm3/1000 strokes : 4.5 + Check tolerance |
| GUIDE SLEEVE TRAVEL | - cm3/1000s. : 7.0 |
| | + |
| Rated speed rpm : 1255 guide sleeve | CONTROL LEVER |
| travel mm : 7.93 | + |
| Tolerance mm : + 0.25 | + control lever + position degree : 114.0 |
| Rated speed rpm : 300 guide sleeve | tolerance degree : + 4.0 |
| travel mm : 0.92 | + RATED SPEED |
| Tolerance mm : + 0.25 | rack travel mm : 10.15 Rated speed rpm : 1245 |
| Rated speed rpm : 671 guide sleeve | Tolerance 1/min : + 5 |
| travel mm : 3.58 | rack travel mm : 4.00 |
| Tolerance mm : + 0.25 | Rated speed rpm : 1355 |
| | + Tolerance 1/min : + 15 |
| Rated speed rpm : 721 | + |
| guide sleeve | + rack travel mm : 0.50 |
| travel mm : 4.06 | + Tolerance mm : + 0.50 |
| Tolerance mm : + 0.25 | + Rated speed rpm : 1450 |
| Rated speed rpm : 970 guide sleeve | ‡ |
| travel mm : 5.51 | |
| Tolerance mm : + 0.25 | + LOW IDLE |
| Rated speed rpm : 1690 guide sleeve | t control lever |
| travel mm : 13.50 | position degree : 72.0 |
| Tolerance mm : ← 0.50 | + tolerance degree : + 4.0 |
| ກວາ | |

Setting point w/out bumper spring

| Rated | speed | rpm | : | 200 |
|-------|-------|-----|---|-----|
|-------|-------|-----|---|-----|

CRT mm min. :> 4.50

Testing:

| Rated speed rpm | : | 300 |
|-----------------|------|------|
| rack travel mm | : | 4.00 |
| Tolerance mm | : +- | 0.10 |

TORQUE CONTROL

| Rated speed rpm | : | 1200 |
|-----------------|-----|---------------|
| rack travel mm | : | 11.15 |
| Tolerance mm | : + | 0. 65 |

| Rated speed rpm | : | 750 |
|-----------------|-----|--------|
| rack travel mm | : | 11.15 |
| Tolerance mm | : + | - 0.10 |

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

| Rated speed rpm | : | 500 |
|-----------------|-----|------------|
| Pressure hPa | • | 700 |
| rack travel mm | : | 11.15 |
| Tolerance mm | : + | - 0.05 |
| | | |

| Rated speed rpm | : | 500 |
|-----------------|-----|------------|
| Pressure hPa | : | - |
| Tolerance mm | : + | - 0.10 |

MEASUREMENT

| Rated | speed | rpm | : | 500 |
|-------|-------|-----|---|-----|
|-------|-------|-----|---|-----|

| Pressure hPa | : | 230 |
|----------------|------|------|
| rack travel mm | : | 0.20 |
| Tolerance mm | : +- | 0.10 |

Start interlock

| Rated | speed | COM | : > | 100 |
|-------|-------|-----|-----|-----|
| Rated | speed | rpm | : < | 200 |

Check

| speed 1/min | ; > | 80 |
|-------------|-----|-----|
| Check | | |
| speed 1/min | : < | 220 |

FUEL DELIVERY CHARACTERISTICS

| Aneroid pressure | | |
|------------------|------|------|
| hPa | : | 700 |
| Rated speed rpm | : | 750 |
| Del. quantity | | |
| cm3/1000 strokes | : | 79.0 |
| Tolerance | | |
| cm3/1000 strokes | : +- | 1.5 |
| Check tolerance | | |
| cm3/1000s. | : +- | 4.0 |
| Spreed | | |
| Tolerance | | |
| cm3/1000 strokes | : | 6.0 |
| Check tolerance | | |
| cm3/1000s. | : | 9.0 |

| Aneroid pressure | | |
|------------------|-----|-------|
| hPa | ; | - |
| Rated speed rpm | : | 500 |
| Del. quantity | | |
| cm3/1000 strokes | : | 67.0 |
| Tolerance | | |
| cm3/1000 strokes | : + | - 1.0 |
| Check tolerance | | |
| cm3/1000s. | : + | - 3.N |

STARTING FUEL DELIVERY

| Rated speed rpm | : | 100 |
|--------------------------------|------|-------|
| Del. quantity cm3/1000 strokes | : | 125.0 |
| Tolerance cm3/1000 strokes | | |
| Check tolerance | : +- | 5.0 |
| cm3/1000s. | : +- | 8.0 |

LOW IDLE

| Rated speed rpm | : | 300 |
|--|----------|--------------|
| Rack travel in mm Tolerance mm Del. quantity | : : + | 4.00 0.10 |
| cm3/1000 strokes | : | 12.0 |
| Tolerance cm3/1000 strokes | : +- | 2.0 |
| Check tolerance cm3/1000s. | : +- | 4.5 |
| Spreed Tolerance | | |
| cm3/1000 strokes | : | 2.0 |
| Check tolerance cm3/1000s. | : | 4.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.12.97 : ISO 4113

Combination No. : 0 403 244 040

Injection pump

Pump designation : PES4MW100/720RS1519

: -2

EP type number

: 0 413 204 017

Governor

Governer design. : RQV300...1200MW132

Governer no.

: 0 420 083 313

Cust. part No.

: 0250748502

Customer-spec. information

Customer : MB-NFZ

Motor

: 0M364LA

Power KW

: 103.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temo. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter:

3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 : **←** 1.0 Tolerance bar

Prestroke mm 4.55 Tolerance mm : **←** 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm: 20.00 Tolerance mm : \leftarrow 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

: **←** 0.50

Tolerance Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 13.90

Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes :

126.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +-4.0

| Tolerance | . 50 | t |
|-------------------------------|----------------------|--|
| | : 5.0 | GUIDE SLEEVE POSITION |
| Check tolerance cm3/1000s. | : 8.0 | † + |
| | | _ + control lever |
| | | position degree : 121 |
| Rated speed rpm | : 300 | Rated speed rpm : 1450 |
| | - | Rack travel in mm : 10.00 |
| Rack travel in m | | Tolerance mm : +- 2.00 |
| Tolerance mm Del. quantity | : ← 0.70 | † |
| cm3/1000 strokes | : 12.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | | TOLL LOND DELIVERY AT TOLL LOND STOP |
| cm3/1000 strokes | | Rated speed rpm : 1200 |
| Check tolerance cm3/1000s. | | + Aneroid pressure + hPa : 1400 |
| Spreed | . + 4.5 | † hPa : 1400 † Del. quantity |
| Tolerance | | + cm3/1000 strokes : 126.0 |
| cm3/1000 strokes | | + Tolerance |
| Check tolerance cm3/1000s. | | + cm3/1000 strokes : + 1.0 |
| cm3/1000s. | . 4.0 | + Check tolerance + cm3/1000s. : + 4.0 |
| , | | + Spreed |
| (B) SETTING OF IN | NECTION PUMP | + Tolerance |
| WITH GOVERNOR | | + cm3/1000 strokes : 5.0 |
| | | + Check tolerance + cm3/1000s. : 8.0 |
| GUIDE SLEEVE TRAV | 'EL | + |
| Rated speed rpm | : 1255 | I |
| guide sleeve | | + CONTROL LEVER |
| travel mm | 7.93 | † |
| Tolerance mm | : + 0.25 | t control lever |
| Rated speed rpm | : 300 | <pre>position degree : 115.0 tolerance degree : + 4.0</pre> |
| guide sleeve | • | + |
| travel mm | : 0.92 | + RATED SPEED |
| Tolerance mm | : +- 0.25 | + rack travel mm : 12.90 |
| Rated speed rpm | : 671 | <pre>+ Rated speed rpm : 1245 + Tolerance 1/min : +- 5</pre> |
| guide sleeve | | + |
| travel mm | : 3.58 | rack travel mm : 4.00 |
| Tolerance mm | : +- 0.25 | + Rated speed rpm : 1405 + Tolerance 1/min : +- 15 |
| Rated speed rpm | : 721 | T TOTAL AND THE TANK THE TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL THE TOTAL T |
| guide sleeve | | rack travel mm : 0.50 |
| travel mm | : 4.06 | Tolerance mm : + 0.50 |
| Tolerance mm | : ← 0.25 | Rated speed rpm : 1500 |
| Rated speed rpm | : 970 | Ţ |
| guide sleeve | | + |
| travel mm | : 5.51 | 1 101 701 7 |
| Tolerance mm | : ← 0.25 | + LOW IDLE |
| Rated speed rpm | : 1690 | Ţ |
| guide sleeve | | control lever |
| travel mm | | position degree : 75.0 |
| Tolerance mm | : 1- 0.00 | + tolerance degree : +- 4.0 |

| Setting point w/ | out bumper spring | + Check + speed 1/min : < 220 |
|------------------------------------|---------------------|---|
| Rated speed rpm | : 200 | ‡ |
| CRT mms min. | : > 4.50 | + FUEL DELIVERY CHARACTERISTIC |
| Testing: | | Aneroid pressure |
| Rated speed rpm | : 300 | + hPa : 1400 + Rated speed rpm : 600 |
| rack travel mm | : 3.90 | Del. quantity |
| rack travel mm Tolerance mm | : + 0.10 | + cm3/1000 strokes : 126.0 |
| | | Tolerance |
| TODOUE CONTROL | | - + cm3/1000 strokes : $+$ 2.0 |
| TORQUE CONTROL | . 1200 | t Check tolerance |
| Rated speed rpm | 17.00 | + cm3/1000s. : +- 5.0 |
| rack travel mm Tolerance mm | · + 0.05 | + Spreed + Tolerance |
| | . 0.03 | + cm3/1000 strokes : 6.0 |
| Rated speed rpm | : 600 | + Check tolerance |
| rack travel mm | : 13.90 | + cm3/1000s. : 9.0 |
| Tolerance mm | : ← 0.10 | † |
| | | - Aneroid pressure |
| ANEROID/ALTITUDE | | + hPa : - |
| COMPENSATOR TEST | | Rated speed rpm : 500 |
| | | + Del. quantity |
| | | + cm3/1000 strokes : 67.0 |
| SETTING | | Tolerance |
| Dotad anaed non | . 500 | cm3/1000 strokes : + 1.0 |
| Rated speed rpm | | + Check tolerance + cm3/1000s. : +- 3.0 |
| Pressure hPa rack travel mm | : 13.90 | I clib/10005 |
| Tolerance mm | : + 0.05 | + |
| Rated speed rpm | • 500 | STARTING FUEL DELIVERY |
| Pressure hPa | : - | I STAKLTIAG LOEF DEFTAEKL |
| Tolerance mm | : + 0.10 | Rated speed rpm : 100 |
| | | + Del. quantity |
| MEASUREMENT | | + cm3/1000 strokes : 150.0 |
| • | * **** | Tolerance |
| Rated speed rpm | : 500 | + cm3/1000 strokes : +- 5.0 |
| Pressure hPa | : 600 | + Check tolerance + cm3/1000s. :+ 8.0 |
| ressure nra rack travel mm | : 2.00 | ± cm3/1000s. : ← 8.0 |
| Tolerance mm | | 1 |
| Pressure hPa | : 350 | † |
| ressure nra rack travel mm | : 0.50 | + LOW IDLE |
| Tolerance mm | | TOM INCL |
| | | Rated speed rpm : 300 |
| Start interlock | | - + Pack traval in - 7.00 |
| real Control (OCK | | + Rack travel in mm : 3.90 + Tolerance mm : + 0.10 |
| Rated speed rom | : > 100 | + Del. quantity |
| Rated speed rpm Rated speed rpm | : < 200 | + cm3/1000 strokes : 12.0 |
| | - · | + Tolerance |
| Check | | + cm3/1000 strokes : +- 2.0 |
| speed 1/min | : > 80 | + Check tolerance |
| | | + cm3/1000s. : +- 4.5 |

Spreed

Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 244 041

Injection pump

Pump designation : PES4MW100/720RS1519

: -2

EP type number : 0 413 204 017

Governor

Governer design. : RQV300...1200MW132

: -8

Governer no. : 0 420 083 313

Cust. part No. : 0250748602

Customer—spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 103.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke man : 4.55
Tolerance man : + 0.05
Check
tolerance man : + 0.10

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270
Tolerance : + 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.90 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 126.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : \leftarrow 4.0

| *-1 | |
|---|---|
| Tolerance + cm3/1000 strokes : 5.0 + | |
| LIBST TOOD SETORES . J.U | GUIDE SLEEVE POSITION |
| Check tolerance | SOIDE OFFERE LOOTITOR |
| cm3/1000s. : 8.0 | |
| | control lever |
| + | position degree : 121 |
| † | Rated speed rpm : 1450 |
| Rated speed rpm : 300 | |
| Pook travel in man 2 00 | Rack travel in mm : 10.00 Tolerance mm : +- 2.00 |
| Rack travel in mm : 3.90 + Tolerance mm : + 0.10 + | roterance mm : +- 2.00 |
| Del. quantity | |
| cm3/1000 strokes : 12.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | Total done of date with the control of the control |
| cm3/1000 strokes : +- 2.0 | Rated speed rpm : 1200 |
| Check tolerance | Aneroid pressure |
| cm3/1000s. : + 4.5 | hPa : 1400 |
| Spreed | Del. quantity |
| Tolerance + cm3/1000 strokes : 2.0 + | cm3/1000 strokes : 126.0 |
| cm3/1000 strokes : 2.0 + Check tolerance + | Tolerance cm3/1000 strokes : ← 1.0 |
| cm3/1000s. : 4.0 | Check tolerance |
| . 4.0 | cm3/1000s, : +- 4.0 |
| <u> </u> | Spreed |
| (B) SETTING OF INJECTION PUMP | Tolerance |
| WITH GOVERNOR + | cm3/1000 strokes : 5.0 |
| + | Check tolerance |
| OUT OF THE TRANS | cm3/1000s. : 8.0 |
| GUIDE SLEEVE TRAVEL | |
| Rated speed rpm : 1255 | |
| guide sleeve | CONTROL LEVER |
| travel mm : 7.93 | |
| Tolerance mm : + 0.25 | control lever |
| + | position degree : 115.0 |
| Rated speed rpm : 300 + | tolerance degree : +- 4.0 |
| guide sleeve | DATES OBEEN |
| travel mm : 0.92 + Tolerance mm : + 0.25 + | RATED SPEED rack travel mm : 12.90 |
| Tolerance mm : \leftarrow 0.25 | Rated speed rpm : 1245 |
| Rated speed rpm : 671 | Tolerance 1/min : +- 5 |
| guide sleeve | |
| travel mm : 3.58 | rack travel mm : 4.00 |
| Tolerance mm : + 0.25 | Rated speed rpm : 1405 |
| + | Tolerance 1/min : + 15 |
| Rated speed rpm : 721 | mosk amount me |
| guide sleeve + travel mm : 4.06 + | rack travel mm : 0.50 Tolerance mm : +- 0.50 |
| Tolerance mm : + 0.25 | Rated speed rpm : 1500 |
| Total data in the state of the | nated speed (pill : 1500 |
| Rated speed rpm : 970 | |
| guide sleeve | |
| travel mm : 5.51 | |
| Tolerance mm : + 0.25 | LOW IDLE |
| Part I amend and 4/00 | |
| Rated speed rpm : 1690 | control Loven |
| guide sleeve + travel mm : 13.50 + | control lever position degree : 75.0 |
| Tolerance mm : + 0.50 | tolerance degree : + 4.0 |
| T T | Tito and augree . Tito |
| | |

| | | + Check | |
|---|---------------------|---|--|
| Setting point w/c | out bumper spring | speed 1/min : < | 220 |
| Rated speed rpm | : 200 | | |
| CRT mm min. | : > 4.50 | + FUEL DELIVERY CHARACTE | RISTICS |
| Testing: | | Aneroid pressure | ` |
| Rated speed rpm | : 300 | + hPa : ' + Rated speed rpm : | 1400 600 |
| rack travel mm Tolerance mm | : 3.90 | Del. quantity cm3/1000 strokes : Tolerance | |
| TORQUE CONTROL | | + cm3/1000 strokes : +- | 2.0 |
| Rated speed rpm rack travel mm Tolerance mm | : 13.90 | theck tolerance cm3/1000s. : +- Spreed Tolerance | 5.0 |
| Rated speed rpm | | cm3/1000 strokes : | 6.0 |
| rack travel mm Tolerance mm | : 13.90 | cm3/1000s. : | 9.0 |
| ANEROID/ALTITUDE | | - Aneroid pressure | |
| COMPENSATOR TEST | | + hPa : + Rated speed rpm : + Del. quantity | |
| SETTING | | + cm3/1000 strokes : + Tolerance | 67.0 |
| Rated speed rpm | : 500 | cm3/1000 strokes : +- Check tolerance | 1.0 |
| Pressure hPa rack travel mm Tolerance mm | : 1400 : 13.90 | | 3.0 |
| Rated speed rpm Pressure hPa | : 500 | STARTING FUEL DELIVERY | ************************************** |
| Tolerance mm | · + 0.10 | Rated speed rpm : Del. quantity | 100 |
| MEASUREMENT | | cm3/1000 strokes : | 150.0 |
| Rated speed rpm | : 500 | cm3/1000 strokes : +- | 5.0 |
| Pressure hPa rack travel mm | : 600 : 2.00 | cm3/1000s. : ÷ | 8.0 |
| Tolerance mm | : ← 0.10 | ‡ | |
| Pressure hPa | | Ţ | |
| rack travel mm Tolerance mm | : 0.50 : +- 0.10 | LOW IDLE | |
| | | Rated speed rpm : | 300 |
| Start interlock | | Rack travel in mm : +- | |
| Rated speed rpm Rated speed rpm | | Del. quantity cm3/1000 strokes : | 12.0 |
| Check | | Tolerance cm3/1000 strokes : +- | 2.0 |
| speed 1/min | : > 80 | + Check tolerance + cm3/1000s. : +- | 4.5 |

Spreed
Tolerance
cm3/1000 strokes : 2.0
Check tolerance
cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.12.97 : ISO 4113

Combination No. : 0 403 246 035

Injection pump

Pump designation : PES6MW100/720RS1517

: -3

EP type number : 0 413 206 020

Governor

Governer design. : RQV300...1300MW132

: -2

: 0 420 083 293 Governer no.

Cust. part No. : 0240744202

Customer-spec. information Customer : MB-NFZ Motor : 0M366LA Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 4.55 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 20.00 Tolerance mm : ← 1.00

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 11.25 Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 95.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: **←** 3.0

| - 1 | † Tolerance mm : + 0.25 |
|--|--|
| Tolerance | † |
| cm3/1000 strokes : 4.5 | + Rated speed rpm : 1683 |
| | † guide sleeve |
| Check tolerance | † travel mm : 12.00 |
| cm3/1000s. : 7.0 | + Tolerance mm : $+$ 0.25 |
| | + |
| | Rated speed rpm : 1780 |
| | guide sleeve |
| Rated speed rpm : 300 | travel mm : 13.50 |
| natea opeco i par i oco | Tolerance mm : + 0.50 |
| Rack travel in mm: 3.50 | T rocerance min . += 0.50 |
| Tolerance mm : +- 0.10 | T |
| | CUITAGE OF STATE OF S |
| Del. quantity | + GUIDE SLEEVE POSITION |
| cm3/1000 strokes : 12.0 | † |
| Tolerance | † |
| cm3/1000 strokes : + 2.0 | + control lever |
| Check tolerance | → position degree : -1 |
| cm3/1000s. : +- 4.5 | + Rated speed rpm : 1400 |
| Spreed | + |
| Tolerance | Rack travel in mm: 13.00 |
| cm3/1000 strokes : 2.0 | Tolerance mm : + 2.00 |
| Check tolerance | 1 |
| cm3/1000s. : 4.0 | |
| (110) (1000) | FULL LOAD DELIVERY AT FULL LOAD STOP |
| | T FOLL EOAD DELIVERY AT FOLL EOAD STOP |
| (D) SETTING OF THESETTON DUMP | Dated aread man 4700 |
| (B) SETTING OF INJECTION PUMP | Rated speed rpm : 1300 |
| WITH GOVERNOR | + Aneroid pressure |
| | + hPa : 1000 |
| | + Del. quantity |
| GUIDE SLEEVE TRAVEL | + cm3/1000 strokes : 95.0 |
| | + Tolerance |
| | -7/4000 |
| Rated speed rpm : 1353 | + cm3/1000 strokes : ← 1.0 |
| | + cm3/1000 strokes : + 1.0 + Check tolerance |
| guide sleeve | † Check tolerance |
| guide sleeve travel mm : 6.70 | + Check tolerance + cm3/1000s. : + 3.0 |
| guide sleeve | Check tolerance cm3/1000s. : + 3.0 Spreed |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 | Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve guide sleeve : 490 guide sleeve | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.20 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 Tolerance mm : 2.25 Tolerance mm : + 0.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.20 Rated speed rpm : 1345 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 Tolerance mm : 2.25 Tolerance mm : + 0.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.20 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 Tolerance mm : + 0.25 Rated speed rpm : 2.25 Tolerance mm : 540 guide sleeve | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.20 Rated speed rpm : 1345 Tolerance 1/min : + 5 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 Tolerance mm : 2.25 Tolerance mm : + 0.25 Rated speed rpm : 540 guide sleeve travel mm : 540 guide sleeve travel mm : 540 guide sleeve travel mm : 2.50 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.20 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 Tolerance mm : + 0.25 Rated speed rpm : 2.25 Tolerance mm : 540 guide sleeve | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.20 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1460 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 Tolerance mm : 2.25 Tolerance mm : 540 guide sleeve travel mm : 540 guide sleeve travel mm : 2.50 Tolerance mm : 2.50 Tolerance mm : + 0.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.20 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 Tolerance mm : 2.25 Tolerance mm : 540 guide sleeve travel mm : 540 guide sleeve travel mm : 2.50 Tolerance mm : + 0.25 Rated speed rpm : 540 guide sleeve travel mm : 2.50 Tolerance mm : + 0.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.20 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1460 Tolerance 1/min : + 15 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 Tolerance mm : 2.25 Tolerance mm : 540 guide sleeve travel mm : 540 guide sleeve travel mm : 2.50 Tolerance mm : + 0.25 Rated speed rpm : 540 guide sleeve travel mm : 2.50 Tolerance mm : + 0.25 Rated speed rpm : 710 guide sleeve | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.20 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1460 Tolerance 1/min : + 15 rack travel mm : 0.50 |
| guide sleeve travel mm : 6.70 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.02 Tolerance mm : + 0.25 Rated speed rpm : 1100 guide sleeve travel mm : 4.76 Tolerance mm : + 0.25 Rated speed rpm : 490 guide sleeve travel mm : 2.25 Tolerance mm : 2.25 Tolerance mm : 540 guide sleeve travel mm : 540 guide sleeve travel mm : 2.50 Tolerance mm : + 0.25 Rated speed rpm : 540 guide sleeve travel mm : 2.50 Tolerance mm : + 0.25 | Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.20 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1460 Tolerance 1/min : + 15 |

Rated speed rpm : 1550 LOW IDLE control lever position degree : 71.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 200 CRT man min. : > 4.20 Testing: Rated speed rpm : 300 rack travel mm : 3.50 Tolerance mm : + 0.10 TORQUE CONTROL Rated speed rpm : 1300 rack travel mms : 11.25 Tolerance mms : + 0.05 Rated speed rpm : 600 rack travel mm : 11.25 Tolerance mm : +- 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500
Pressure hPa : 1000
rack travel mms : 11.25 Tolerance mn: + 0.05 Rated speed rpm : 500 Pressure hPa : Tolerance mma : : +- 0.10 **MEASUREMENT** Rated speed rpm : 500 Pressure hPa : 350 rack travel mm : 1.4 rack travel mm : 1.45 : **←** 0.10 Tolerance mm

| Tolerance mm | : ← 0.10 |
|--|--------------------|
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 100 : < 220 |
| Check speed 1/min Check | : > 80 |
| speed 1/min | : < 240 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm | : 1000 : 600 |
| Del. quantity cm3/1000 strokes Tolerance | : 87.0 |
| cm3/1000 strokes Check tolerance | : ← 1.5 |
| cm3/1000s. Spreed | : ← 4.0 |
| Tolerance cm3/1000 strokes Check tolerance | : 6.0 |
| cm3/1000s. | : 9.0 |
| Aneroid pressure hPa | : - |
| Rated speed rpm Del. quantity cm3/1000 strokes | : 500 : 57.0 |
| Tolerance cm3/1000 strokes | |
| Check tolerance cm3/1000s. | : ← 3.0 |
| STARTING FUEL DEL | IVERY |
| Rated speed rpm Del. quantity | : 100 |
| cm3/1000 strokes Tolerance | |
| cm3/1000 strokes Check tolerance | |
| cm3/1000s. | : ← 8.0 |
| | |

LOW IDLE

Pressure hPa : 250 rack travel mm : 0.75

| Rated speed rpm | : | 300 |
|--|-----------|--------------|
| Rack travel in mm Tolerance mm Del. quantity | : : +- | 3.50 0.10 |
| cm3/1000 strokes Tolerance | : | 12.0 |
| cm3/1000 strokes Check tolerance | : +- | 2.0 |
| cm3/1000s. Spreed | : +- | 4.5 |
| Tolerance cm3/1000 strokes Check tolerance | : | 2.0 |
| cm3/1000s. | : | 4.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 246 036

Injection pump

Pump designation : PES6MW100/720RS1517

: -2

EP type number : 0 413 206 019

Covernor

Governer design. : RQV300...1300MW132

Governer no. : 0 420 083 299

Cust. part No. : 0240744402

Customer-spec. information Customer : MB-NFZ : 0M366LA Motor Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar : + 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm 4.55 Tolerance mm : +- 0.05 Check : + 0.10 tolerance mm

Rack travel in mm : 20.00 Tolerance mm : +- 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 13.30 : **←** 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 118.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

: + 3.0 cm3/1000s.

| | | † Tolerance name: + 0.25 |
|---------------------------------|------------------------|---|
| Tolerance | , - | † |
| cm3/1000 strokes | : 4.5 | + Rated speed rpm : 1683 |
| Charle Artenance | | + guide steeve |
| Check tolerance | | + travel mm : 12.00 |
| cm3/1000s. | : 7.0 | Tolerance mm : + 0.25 |
| | | † |
| | | + Rated speed rpm : 1780 |
| 5.1.1 | 740 | + guide sleeve + travel mm : 13.50 |
| Rated speed rpm | : 300 | + travel mm : 13.50 |
| On all to the second | 7.00 | Tolerance mm : + 0.50 |
| Rack travel in mm | | † |
| Tolerance nn | : + 0.10 | CUITAG OL STUD DOCUMENT |
| Del. quantity | . 42.0 | + GUIDE SLEEVE POSITION |
| cm3/1000 strokes | : 12.0 | † |
| Tolerance cm3/1000 strokes | | Ť |
| | | + control lever |
| Check tolerance cm3/1000s. | | + position degree : VL |
| Spreed | , + 4.5 | T combool lover |
| Tolerance | | + control lever |
| cm3/1000 strokes | . 20 | + position degree : 125 |
| Check tolerance | | Rated speed rpm : 1450 |
| cm3/1000s. | | Pools trough in the 17 00 |
| CIRCY (CCC). | . 4.0 | + Rack travel in mm : 13.00 |
| | | + Tolerance mm : +- 2.00 |
| (B) SETTING OF IN | JECTION PUMP | |
| WITH GOVERNOR | | FULL LOAD DELIVERY AT FULL LOAD STOP |
| | | † |
| CUIDE CLEDIE TONI | | + Rated speed rpm : 1300 |
| GUIDE SLEEVE TRAV | EL | + Aneroid pressure |
| Dotad anasal ann | . 4757 | + hPa : 1000 |
| Rated speed rpm | : 1353 | + Del. quantity |
| guide sleeve | . 4.70 | + cm3/1000 strokes : 118.0 |
| travel mm | : 6.70 | + Tolerance |
| Tolerance mm | : + 0.0 | + cm3/1000 strokes : +- 1.0 |
| Distant annual annu | . 700 | + Check tolerance |
| Rated speed rpm | : 300 | + cm3/1000s. + 3.0 |
| guide sleeve | . 1.02 | + Spreed |
| travel mm | : 1.02 | + Tolerance |
| Tolerance mm | : + 0.25 | + cm3/1000 strokes : 4.5 |
| Datad anesd | : 1100 | + Check tolerance |
| Rated speed rpm | : IUU | + cm3/1000s. : 7.0 |
| guide sleeve travel mm | : 4.76 | Ţ |
| Tolerance mm | : 4.70 : + 0.25 | |
| I U LET CAT LLE IRTH | 0.25 | I CONTROL LEVED |
| Pated speed | : 490 | + CONTROL LEVER |
| Rated speed rpm guide sleeve | : 490 | † control lever |
| travel mm | : 2.25 | |
| Tolerance mm | : + 0.25 | + position degree : 120.0 + tolerance degree : + 4.0 |
| TO COLONIE INTO | , · u.c | T core ance degree 4.0 |
| Rated speed rpm | : 540 | T RATED SPEED |
| guide sleeve | . 570 | + rack travel mm : 12.30 |
| travel am | : 2.50 | + Rated speed rpm : 1345 |
| Tolerance man | : + 0.25 | + Tolerance 1/min : + 5 |
| | | + FOLERGING FAMILY . TT J |
| Rated speed rpm | : 710 | rack travel mm : 4.00 |
| guide sleeve | - · · · · · | + Rated speed rpm : 1485 |
| travel mm | : 3.03 | + Tolerance 1/min : + 15 |
| ·· - ·· | | |
| | | |

| rack travel mm Tolerance mm Rated speed rpm | : 0.50 : ← 0.50 : 1550 |
|---|--|
| LOW IDLE | |
| control lever position degree tolerance degree | : 72.0 : + 4.0 |
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 200 |
| CRT mm min. | : > 4.50 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 3.80 : + 0.10 |
| Rated speed rpm rack travel mm | : 490 : 2.00 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 13.30 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 600 : 13.30 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 1000 : 13.30 : + 0.05 |
| Rated speed rpm Pressure hPa Tolerance mm | : 500 : - : + 0.10 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |

| Pressure hPa rack travel mm Tolerance mm | : 600 : 3.00 : ← 0.10 |
|--|-----------------------------|
| Pressure hPa rack travel mm Tolerance mm | : 300 : 1.20 : + 0.10 |
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 100 : < 200 |
| Check speed 1/min Check | : > 80 |
| speed 1/min | : < 220 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm | : 1000 : 600 |
| Del. quantity cm3/1000 strokes | : 119.0 |
| Tolerance cm3/1000 strokes | : + 1.5 |
| Check tolerance cm3/1000s. Spreed | : +- 4.0 |
| Tolerance cm3/1000 strokes Check tolerance | : 6.0 |
| cm3/1000s. | : 9.0 |
| Aneroid pressure hPa | : |
| Rated speed rpm Del. quantity | : 500 |
| cm3/1000 strokes Tolerance | |
| cm3/1000 strokes Check tolerance | : +- 1.0 |
| cm3/1000s. | : ← 3.0 |
| STARTING FUEL DEL | IVERY |
| Rated speed rpm Del. quantity | : 100 |
| cm3/1000 strokes Tolerance | : 150.0 |
| cm3/1000 strokes Check tolerance | : + 5.0 |
| cm3/1000s. | : - 8.0 |

LOW IDLE

| Rated speed rpm | : | 300 | |
|--|------|--------------|--|
| | • | 3.80 0.10 | |
| Del. quantity cm3/1000 strokes Tolerance | : | 12.0 | |
| cm3/1000 strokes Check tolerance | : +- | 2.0 | |
| cm3/1000s. Spreed | : +- | 4.5 | |
| Tolerance cm3/1000 strokes Check tolerance | : | 2.0 | |
| cm3/1000s. | : | 4.0 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.12.97 : ISO 4113

Combination No. : 0 403 246 043

Injection pump

Pump designation : PES6MW100/720RS1523

EP type number : 0 413 206 024

Governor

Governer design. : RQV300...1300MW148

Governer no. : 0 420 083 321

Cust. part No. : 0250744302

Customer-spec. information Customer : MB-NFZ : 0M366LA Motor Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar: 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

31.0 Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 4.55 Tolerance mm : +- 0.05 Check

tolerance mm : **←** 0.10

Rack travel in mm: 21.00

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 11.40 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 98.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

: +- 3.0 cm3/1000s.

| Tolerance - | + |
|--|--|
| cm3/1000 strokes : 4.5 | Rated speed rpm : 1720 |
| Check tolerance | guide sleeve travel mm : 13.50 |
| cm3/1000s. : 7.0 | Tolerance mm : + 0.50 |
| | |
| • | GUIDE SLEEVE POSITION |
| Rated speed rpm : 300 | |
| Rack travel in mm : 4.00 - | t control lever |
| Tolerance mm : + 0.10 | position degree : 123 |
| Del. quantity - cm3/1000 strokes : 12.0 - | Rated speed rpm : 1500 |
| Tolerance - | Rack travel in mm : 10.00 |
| cm3/1000 strokes : +- 2.0 | Tolerance mm : + 2.50 |
| Check tolerance - cm3/1000s. : +- 4.5 | |
| Spreed - 4.5 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance - | |
| cm3/1000 strokes : 2.0 - Check tolerance - | Rated speed rpm : 1300 Aneroid pressure |
| cm3/1000s. : 4.0 | hPa : 700 |
| - | Del. quantity |
| (B) SETTING OF INJECTION PUMP | cm3/1000 strokes : 98.0 Tolerance |
| WITH GOVERNOR | cm3/1000 strokes : +- 1.0 |
| - | Check tolerance |
| GUIDE SLEEVE TRAVEL | ├ cm3/1000s. : ← 3.0 ├ Spreed |
| • | Tolerance |
| Rated speed rpm : 1354 - guide sleeve - | cm3/1000 strokes : 4.5 |
| travel mm : 9.32 | Check tolerance : 7.0 |
| Tolerance mm : + 0.25 | |
| Rated speed rpm : 300 | |
| guide sleeve - | CONTROL LEVER |
| travel mm : 0.92 - Tolerance mm : + 0.25 - | control lever |
| TO CET ON THE TRANSPORT | position degree : 118.0 |
| Rated speed rpm : 1077 | tolerance degree : + 4.0 |
| guide sleeve - travel mm : 7.05 - | RATED SPEED |
| Tolerance mm : + 0.25 | rack travel mm : 10.40 |
| Dated and day 51/ | Rated speed rpm : 1345 |
| Rated speed rpm : 514 - guide sleeve - | Tolerance 1/min : + 5 |
| travel mm : 2.14 | rack travel mm : 4.00 |
| Tolerance mma : +- 0.25 | Rated speed rpm : 1455 Tolerance 1/min : +- 15 |
| Rated speed rpm : 564 | Folerance 1/min : +- 15 |
| guide sleeve | rack travel mm : 0.50 |
| travel mm : 2.60 - Tolerance mm : +- 0.25 - | Tolerance mm : +- 0.50 Rated speed rpm : 1550 |
| TO COT GRADE THE TOTAL THE | nated speed (pin . 1990 |
| Rated speed rpm : 740 - guide sleeve | |
| travel ma : 3.93 | |
| Tolerance mm : + 0.25 | LOW IDLE |

| control lever position degree tolerance degree | : 75.0 : ← 4.0 |
|---|--|
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 200 |
| CRT mm min. | : > 4.70 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 4.00 : + 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1300 : 11.40 : ← 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 750 : 11.40 : +- 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | : 600 : 11.40 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 700 : 11.40 : +- 0.10 |
| Rated speed rpm Pressure hPa Tolerance mm | : 500 : - : + 0.10 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 350 : 1.40 : ← 0.10 |
| Pressure hPa rack travel mm Tolerance mm | : 250 : 0.70 : ← 0.10 |

| Start interlock | | |
|------------------------------------|---------------------|--|
| Datad anoad ann | . > 100 | |
| Rated speed rpm Rated speed rpm | : > 100 | |
| Rated speed rpm | : < 220 | |
| Check | | |
| speed 1/min | ; > 80 | |
| Check | , | |
| speed 1/min | : < 240 | |
| Specu Minn | . \ 240 | |
| FUEL DELIVERY CHA | RACTERISTICS | |
| | | |
| Aneroid pressure | | |
| hPa | : 700 | |
| Rated speed rpm | : 750 | |
| Del. quantity | | |
| cm3/1000 strokes | : 83.0 | |
| Tolerance | | |
| cm3/1000 strokes | : + 1.5 | |
| Check tolerance | • • • • • • | |
| | / 0 | |
| cm3/1000s. | : +- 4.0 | |
| Spreed | | |
| Tolerance | | |
| cm3/1000 strokes | : 6.0 | |
| Check tolerance | | |
| cm3/1000s. | : 9.0 | |
| | | |
| Aneroid pressure | | |
| hPa | : 700 | |
| Rated speed rpm | : 600 | |
| rack travel mm | : 11.40 | |
| Toterance mm | : + 0.10 | |
| | : 0.10 | |
| Del. quantity | | |
| cm3/1000 strokes | : 88.0 | |
| Tolerance | | |
| cm3/1000 strokes | : ← 1.5 | |
| Check tolerance | | |
| cm3/1000s. | : +- 4.0 | |
| · | | |
| Aneroid pressure | | |
| hPa | : - | |
| Rated speed rpm | : 500 | |
| Del. quantity | | |
| cm3/1000 strokes | : 57.0 | |
| Tolerance | . 27.0 | |
| | 4.0 | |
| cm3/1000 strokes | : ← 1.0 | |
| Check tolerance | | |
| cm3/1900s. | : +- 3.0 | |
| | | |
| STARTING FUEL DEL | IVERY | |
| Rated speed rpm | : 100 | |
| | | |
| | | |

Del. quantity cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes : \leftarrow 5.0

Check tolerance

cm3/1000s.

: +- 8.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 4.00 : + 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 12.0 Tolerance cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. Spreed

: **←** 4.5

Tolerance

cm3/1000 strokes : 2.0

Check tolerance

cm3/?000s.: 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 15.12.97 : ISO 4113

Combination No. : 0 403 246 049

Injection pump

Pump designation : PES6MW100/720RS1523

EP type number : 0 413 206 024

6overnor

Governer design. : RQV300...1200MW148

: -5

Governer no.

: 0 420 083 327

Cust. part No. : 0250745002

Customer-spec. information Customer : MB-NFZ Motor : 0M366LA

Power KW

: 125.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C : + 2.0 Tolerance *C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm 4.55 Tolerance mm : + 0.05Check

tolerance mm : + 0.10Rack travel in mm: 21.00

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : + - 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 11.40 Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes : 96.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +-3.0

| Tolerance | | 1 |
|---|---|--|
| cm3/1000 strokes | . 45 | Rated speed rpm : 1720 |
| | | + guide sleeve |
| Check tolerance | *************************************** | + travel mm : 13.50 |
| cm3/1000s. | : 7.0 | + Tolerance mm : + 0.50 |
| | | + |
| | | |
| Rated speed rpm | . 700 | + GUIDE SLEEVE POSITION |
| Rated Speed Phil | : 300 | Ī |
| Rack travel in m | m: 4.00 | control lever |
| Tolerance mm | : ← 0.10 | position degree : 123 |
| Del. quantity | | + Rated speed rpm : 1500 |
| cm3/1000 strokes | : 12.0 | + |
| Tolerance | | + Rack travel in mma: 10.00 |
| cm3/1000 strokes | : 2.0 | † Tolerance mm : + 2.50 |
| Check tolerance | | † |
| cm3/1000s. | : ← 4.5 | FILL LOAD BELTIMEN AT THE LOAD COM |
| Spreed Tolerance | | FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000 strokes | 2.0 | † Rated speed rpm : 1200 |
| Check tolerance | | Aneroid pressure |
| cm3/1000s. | : 4.0 | + hPa : 700 |
| | | + Del. quantity |
| | | - cm3/1000 strokes : 96.0 |
| (B) SETTING OF I | NJECTION PUMP | + Tolerance |
| WITH GOVERNOR | | + cm3/1000 strokes : + 1.0 |
| | | + Check tolerance |
| | | + cm3/1000s. : $+$ 3.0 |
| GUIDE SLEEVE TRA | VEL | + Spreed |
| | 4044 | + Tolerance |
| Rated speed rpm | : 1214 | + cm3/1000 strokes : 4.5 |
| guide sleeve | . 9.00 | + Check tolerance |
| travel mm Tolerance mm | : 8.08 : + 0.25 | + cm3/1000s. : 7.0 |
| TOTAL GLICE INT | . +- 0.25 | I |
| Rated speed rpm | : 300 | |
| guide sleeve | | + CONTROL LEVER |
| travel ma | : 0.92 | } |
| Tolerance mm | : ← 0.25 | + control lever |
| | | + position degree : 118.0 |
| Rated speed rpm | | + tolerance degree : +- 4.0 |
| guide sleeve travel mm Tolerance mm | . 4.7/ | † DATES ODES |
| Travel MM | : 0.74 | + RATED SPEED |
| IOTALAUCE ILL | · + U.25 | rack travel mm : 10.40 Rated speed rpm : 1245 |
| Rated speed rpm | • 514 | + Tolerance 1/min : +- 5 |
| | | T TOLET GITTE TANKIN . T |
| guide sleeve travel mm Tolerance mm | : 2.14 | † rack travel mm : 4.00 |
| Tolerance ma | : + 0.25 | + Rated speed rpm : 1375 |
| | ~ * **** | + Tolerance 1/min : + 15 |
| Rated speed rpm | : 564 | + |
| autide sleeve | | rack travel mm : 0.50 |
| travel mm Tolerance mm | : 2.60 | + Tolerance mm : + 0.50 |
| Tolerance mm | : + 0.25 | rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500 |
| | 7/6 | † |
| Rated speed rpm | : 740 | † |
| guide sleeve travel mm | . 7.07 | † |
| Travel mm | : 3.95 | LOU TOLE |
| Tolerance ma | : +- 0.25 | + LOW IDLE |
| | | |

| control lever position degree tolerance degree | : 75.0 : + 4.0 |
|---|--|
| Setting point w/d | out bumper spring |
| Rated speed rpm | : 200 |
| CRT mm min. | : > 4.70 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 4.00 : ← 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1200 : 11.40 : ← 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | |
| Rated speed rpm rack travel mm Tolerance mm | : 600 : 11.40 : ← 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm | |
| Pressure hPa rack travel mm Tolerance mm | : 500 : 700 : 11.40 : ← 0.10 |
| rack travel mm | : 700 : 11.40 : ← 0.10 |
| rack travel mm Tolerance mm Rated speed rpm Pressure hPa | : 700 : 11.40 : ← 0.10 |
| rack travel mm Tolerance mm Rated speed rpm Pressure hPa Tolerance mm | : 700 : 11.40 : ← 0.10 |
| rack travel mm Tolerance mm Rated speed rpm Pressure hPa Tolerance mm MEASUREMENT | : 700 : 11.40 : ← 0.10 : 500 : − : ← 0.10 |

| Start interlock | | | |
|--|------|--------|--------------|
| Rated speed rpm | | , | 100 |
| Nateu speed rom | • | > < | 220 |
| Rated speed rpm | • | | 220 |
| heck | | | |
| speed 1/min | : | > | 80 |
| Check | | | |
| speed 1/min | : | < | 240 |
| TUEL DELIVERY CHA | .RA(| CTE | RISTIC |
| Aneroid pressure | | | |
| nPa | : | | 7 0 0 |
| Rated speed rpm | : | | 750 |
| Del. quantity | | | |
| m3/1000 strokes | : | | 88.0 |
| Tolerance | - | | |
| cm3/1000 strokes | : | +- | 1.5 |
| Check tolerance | • | | |
| m3/1000s. | • | +- | 4.0 |
| Spreed | • | | 7.0 |
| Tolerance | | | |
| cm3/1000 strokes | : | | 6.0 |
| Check tolerance | • | | 0.0 |
| cm3/1000s. | | | 9.0 |
| Jino/ 1000s. | • | | 7.0 |
| Ineroid pressure | | | |
| hPa | : | | 700 |
| Rated speed rpm | : | | 600 |
| rack travel mm | • | | 11.40 |
| Tolerance mm | • | + | 0.10 |
| Del. quantity | • | • | J. 10 |
| cm3/1000 strokes | : | | 88.0 |
| Tolerance | • | | ٠٠.٥ |
| cm3/1000 strokes | | +- | 1.5 |
| Check tolerance | • | , – | 1.5 |
| cm3/1000s. | | | 4.0 |
| JID/ (UUUS. | š | - | 4.U |
| neroid pressure | | | |
| hPa | • | | _ |
| Rated speed rpm | • | | 50C |
| Del. quantity | • | | 500 |
| m3/1000 strokes | • | | 57.0 |
| rolerance | • | | ں. ار |
| cm3/1000 strokes | | | 1.0 |
| | : | т | 1.0 |
| | | | |
| Check tolerance cm3/1 00 0s. | _ | | 3.0 |

STARTING FUEL DELIVERY

Rated speed rpm : 100

| Del. quantity cm3/1000 strokes | : | 125.0 |
|--------------------------------|-----|-------|
| Tolerance cm3/1000 strokes | : + | 5.0 |

Check tolerance cm3/1000s. : + 8.0

LOW IDLE

| Rated speed rpm | : | 300 |
|--|-----------------|--------------|
| Rack travel in mm Tolerance mm Del. quantity | : : - | 4.00 0.10 |
| | : | 12.0 |
| cm3/1000 strokes Check tolerance | : + | 2.0 |
| cm3/1000s. Spreed | : +- | 4.5 |
| Tolerance cm3/1000 strokes Check tolerance | : | 2.0 |
| cm3/1000s. | : | 4.0 |

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 274 007

Injection pump

Pump designation : PES4MW100/720RS1524

EP type number : 0 413 204 021

Governor

Governer design. : RSV350...1200MW0A356

: -2

Governer no. : 0 420 085 273

Cust. part No. : 0260748302

Customer-spec. information Customer : MB-NFZ Motor : 0M364LA Power KW : 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : ← 1.5

Test lines : 1 680 750 089

Outside diameter: 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.00 Tolerance mm: + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.15
Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 86.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : + 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

| | | 1 | |
|-------------------------------------|---------------------|---|---------------------|
| Check tolerance cm3/1000s. | : 6.0 | control lever position degree tolerance degree | |
| Rated speed rpm Del. quantity | | RATED SPEED rack travel mm Rated speed rpm | |
| cm3/1000 strokes | : 12.0 | Tolerance 1/min | |
| cm3/1000 strokes Check tolerance | : + 2.0 | rack travel mma Tolerance mma | : 1.00 |
| cm3/1000s. Spreed | : + 4.5 | Rated speed rpm | |
| Tolerance cm3/1000 strokes | : 3.5 | ‡ | |
| Check tolerance cm3/1000s. | : 5.5 | LOW IDLE | |
| (B) SETTING OF IN | LIECTIONI DIIMP | Setting point w/c | out bumper spring |
| WITH GOVERNOR | DEC17014 LOUI | Rated speed rpm rack travel mm Tolerance mm | : 4.00 |
| GUIDE SLEEVE POSI | TION | Rated speed rpm | : 100 |
| | | CRT mm min. | : > 19.50 |
| control lever | . 7 | † | |
| position degree | | TODOUE CONTROL | |
| Rated speed rpm | : 800 | + TORQUE CONTROL | . 4200 |
| Rack travel in mm | . 0.45 | + Rated speed rpm + rack travel mm | |
| Tolerance mm | | Tolerance mm | |
| governor spring pre-tension | | Rated speed rpm rack travel mm | : 750 · 11 15 |
| click setting x | : 4.50 | Tolerance mm | : + 0.10 |
| FULL LOAD DELIVER | Y AT FULL LOAD STOP | ANEROID/ALTITUDE COMPENSATOR TEST | |
| Rated speed rpm Aneroid pressure | : 1200 | ‡ | |
| hPa Del. quantity | : 1400 | + SETTING | |
| cm3/1000 strokes Tolerance | | Rated speed rpm Pressure hPa | : 500 : 1400 |
| cm3/1000 strokes Check tolerance | | rack travel mm Tolerance mm | : 11.15 : + 0.10 |
| cm3/1000s. Spreed | : +- 3.0 | Rated speed rpm | : 500 |
| Tolerance | - 7 E | + Pressure hPa | 0.40 |
| cm3/1000 strokes Check tolerance | | Tolerance mm | : +- 0.10 |
| cm3/1000s. | : 6.0 | # MEASUREMENT | |
| | | Rated speed rpm | : 500 |
| CONTROL LEVER | | + Pressure hPa | : 250 |

rack travel mm : 0.25 : + 0.10Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa

1400 Rated speed rpm 750

Del. quantity

cm3/1000 strokes : 80.0 Tolerance

cm3/1000 strokes : \leftarrow 1.5 Check tolerance

cm3/1000s.

: +-4.0 Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/10000s.

7.0

Aneroid pressure

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 71.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s.3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes : +-5.0

Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 350

Del. quantity cm3/1000 strokes :

12.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

: +cm3/1000s.4.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s.: 5.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 444 144

Injection pump

Pump designation: PES4MW100/720RS1151 EP type number: 0 413 404 104

Governor

Governer design. : RQV300...1300MW67-7

Governer no. : 0 420 083 278

Cust. part No. : 0230745902

Customer—spec. information Customer : MB-NFZ Motor : 0M364A Power KW : 79.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 10.85 Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 83.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

| | + |
|--|--|
| Check tolerance cm3/1000S. : 6.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| | Rated speed rpm : 1300 |
| Rated speed rpm : 300 | + Aneroid pressure + hPa : 700 |
| Rack travel in mm : 6.40 | + Del. quantity + cm3/1000 strokes : 83.0 |
| Tolerance mm : + 0.10 | † Tolerance |
| Del. quantity cm3/1000 strokes : 12.0 | + cm3/1000 strokes : +- 1.0 + Check tolerance |
| Tolerance | + cm3/1000s. : +- 3.0 |
| cm3/1000 strokes : +- 2.0 Check tolerance | + Spreed + Tolerance |
| cm3/1000s. : +- 4.5 | + cm3/1000 strokes : 3.5 |
| Spreed Tolerance | + Check tolerance + cm3/1000s. : 6.0 |
| cm3/1000 strokes : 3.5 | |
| Check tolerance cm3/1000s. : 5.5 | + |
| , , , , , , , , , , , , , , , , , , , | CONTROL LEVER |
| (B) SETTING OF INJECTION PUMP | control lever |
| WITH GOVERNOR | <pre>position degree : 112.0 tolerance degree : +- 4.0</pre> |
| | - + coterance degree : +- 4.0 |
| GUIDE SLEEVE TRAVEL | RATED SPEED |
| Rated speed rpm : 300 | + rack travel mm : 9.80 + Rated speed rpm : 1345 |
| guide sleeve | Tolerance 1/min : + 5 |
| travel mm : 1.40 | † |
| Tolerance mm : + 0.25 | + rack travel mm : 4.00 + Rated speed rpm : 1435 |
| Rated speed rpm : 477 | Tolerance 1/min : +- 15 |
| guide sleeve | + |
| travel mm : 2.85 Tolerance mm : +- 0.25 | rack travel mm : 0.50 |
| Tolerance nn : +- 0.25 | + Tolerance mm : + 0.50 + Rated speed rpm : 1500 |
| Rated speed rpm : 490 | + |
| guide sleeve | † |
| travel mm : 2.93 Tolerance mm : + 0.25 | İ |
| | LOW IDLE |
| Rated speed rpm : 1600 | + |
| guide sleeve | † |
| travel mm : 11.50 Tolerance mm : + 0.50 | + control lever + position degree : 78.0 |
| To Certain . The U.Su | tolerance degree : +- 4.0 |
| GUIDE SLEEVE POSITION | Setting point w/out bumper spring |
| | Rated speed rpm : 200 |
| control lever | + |
| position degree : - 1 Rated speed rpm : 1435 | + CRT mm min. :> 8.00 |
| , and the second | Testing: |
| Rack travel in mm : 9.80 | Poted speed mp . 700 |
| Tolerance mm : +- 2.00 | + Rated speed rpm : 300 + rack travel mm : 6.40 |
| | 1 441 9 410 1100 0 0 10 |

| Tolerance mm | 0 10 | 1 | Check | |
|-----------------------------------|-----------------|--------------|--------------------------------|---------------------|
| TOTEL OFFICE 1988 | 0.10 | Į | speed 1/min | : > 80 |
| rack travel mm | : 2.00 | + | Check | |
| Rated speed rpm Tolerance 1/min | : 510 | + | speed 1/min | : < 230 |
| Tolerance 1/min | : ← 30 | † | | |
| | | I | FUEL DELIVERY CHA | RACTERISTICS |
| TORQUE CONTROL | | + | | |
| Rated speed rpm | | † | | |
| rack travel mm | | † | Aneroid pressure | . 700 |
| Tolerance mm | : 0.05 | † | hPa Rated speed rpm | : 700 |
| Rated speed rpm | • 600 | I | Del. quantity | . 000 |
| rack travel mm | | 1 | cm3/1000 strokes | : 77.0 |
| Tolerance mm | : ← 0.05 | + | Tolerance | .,,,, |
| | | + | cm3/1000 strokes | : ← 1.5 |
| Rated speed rpm | : 1900 | · + | Check tolerance | |
| rack travel mm | : 11.65 | † | cm3/1000s. | : +- 4.0 |
| Tolerance mma | : + 0.10 | † | Spreed | |
| Rated speed rpm | . 1175 | Ī | Tolerance cm3/1000 strokes | : 5.0 |
| rack travel mm | 11.40 | I | Check tolerance | . ,,,, |
| Tolerance mm | : + 0.10 | 1 | cm3/1000s. | : 7.0 |
| | | + | | |
| ANEDOTO (AL TITINE | | | | . 44 /5 |
| ANEROID/ALTITUDE COMPENSATOR TEST | | I | rack travel mm Tolerance mm | · + 0.10 |
| COM BIOATON TEST | | I | rocer di ice imi | 0.10 |
| | | + | | |
| SETTING | | † | Aneroid pressure | |
| Dated aread are | . 500 | † | hPa Rated speed rpm | : - : 500 |
| Rated speed rpm Pressure hPa | | I | Del. quantity | : 500 |
| rack travel mm | : 11.65 | Ţ | cm3/1000 strokes | : 46.0 |
| Tolerance mm | | + | Tolerance | |
| | | + | cm3/1000 strokes | : ← 1.0 |
| Rated speed rpm | : 500 | + | Check tolerance | |
| Pressure hPa | : - | † | cm3/1000s. | : ← 3.0 |
| rack travel mm Tolerance mm | | † | | |
| loterance mm | ; — 0.05 | Ī | | |
| MEASUREMENT | | | STARTING FUEL DEL | IVERY |
| D _A_J_ == 1 | | + | Data d 4 | . 400 |
| Rated speed rpm | : 500 | † | Rated speed rpm | |
| Pressure hPa | • 300 | Ī | Del. quantity cm3/1000 strokes | • 83.0 |
| rack travel mm | 11.40 | 1 | Tolerance | . 65.0 |
| Tolerance mm | : + 0.10 | <u> </u> | cm3/1000 strokes | : +- 5.0 |
| | | + | Check tolerance | |
| Pressure hPa | | + | cm3/1000s. | : +- 8.0 |
| rack travel mm | : 10.40 | † | | |
| Tolerance mma | : + 0.10 | 1 | | |
| | | | | |
| Start interlock | | + | LOW IDLE | |
| Rated speed rpm | •> 100 | Ī | Rated speed rpm | • 300 |
| Rated speed rpm | ; < 200 | Ţ | Hacea opeca i pili | . 500 |
| | | + | Rack travel in mm | 6.40 |
| | | + | Tolerance mm | |
| | | | | |

| Del. quantity cm3/1000 strokes | : | 12.0 |
|--|------|------|
| Tolerance cm3/1000 strokes Check tolerance | : +- | 2.0 |
| cm3/1000s. Spreed | : +- | 4.5 |
| Tolerance cm3/1000 strokes Check tolerance | : | 3.5 |
| cm3/1000s. | : | 5.5 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 446 158

Injection pump

Pump designation : PES6MW100/720RS1131

EP type number : 0 413 406 123

Governor

Governer design. : RQV300...1300MW50-1

: 0 420 083 089 Governer no.

Cust. part No. :

Customer-spec. information : MB-NFZ Customer : OM 366 LA Motor Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : **←** 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

tolerance mm

BEGINNING OF DELIVERY

Test pressure bar: 31.0 Tolerance bar : \leftarrow 1.0

Prestroke mm 3.75 Tolerance mm : + 0.05 Check

Rack travel in mm : 10.50

Tolerance mm : ← 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: **←** 0.10

Tolerar.ce : **←** 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 12.25 : **←** 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 97.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : **←** 3.0

| Tolerance cm3/1000 strokes | : 3.5 | Rated speed rpm : 1600 guide sleeve |
|--|--------------|--|
| Check tolerance cm3/1000s. | : 6.0 | travel mm : 11.50 Tolerance mm : + 0.50 |
| Rated speed rpm | : 300 | GUIDE SLEEVE POSITION |
| 5 1 | t † | |
| Rack travel in mm Tolerance mm Del. quantity | | control lever position degree : - 1 Rated speed rpm : 1340 |
| cm3/1000 strokes Tolerance | : 11.0 | Rack travel in mm: 16.50 |
| cm3/1000 strokes Check tolerance | : + 2.0 | Tolerance mm : + 1.30 |
| | : + 4.5 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | <u> </u> | |
| cm3/1000 strokes Check tolerance | + | Rated speed rpm : 1300 Aneroid pressure |
| cm3/1000s. | : 5.5 | hPa : 700 Del. quantity |
| (B) SETTING OF IN | JECTION PUMP | cm3/1000 strokes : 97.5 Tolerance |
| WITH GOVERNOR | ‡ | cm3/1000 strokes : +- 1.0 Check tolerance |
| GUIDE SLEEVE TRAVI | EL | cm3/1000S. : + 3.0 Spreed |
| Rated speed rpm guide sleeve | : 1354 | Tolerance cm3/1000 strokes : 3.5 Check tolerance |
| travel mm | : 8.68 | cm3/1000s. : 6.0 |
| Tolerance mm | : + 0.25 | |
| Rated speed rpm guide sleeve | : 300 | CONTROL LEVER |
| travel mm | : 1.40 | |
| Tolerance mm | : + 0.25 | control lever position degree : 114.0 |
| Rated speed rpm guide sleeve | : 881 | tolerance degree : +- 4.0 |
| travel mm | : 5.02 | RATED SPEED |
| Tolerance mm | : ← 0.25 | rack travel mm : 11.20 Rated speed rpm : 1345 |
| Rated speed rpm guide sleeve | : 363 | Tolerance 1/min : +- 5 |
| travel mm | : 2.05 | rack travel mm : 4.00 |
| Tolerance mm | : + 0.25 | Rated speed rpm : 1455 Tolerance 1/min : +- 15 |
| Rated speed rpm guide sleeve | : 413 | rack travel mm : 0.50 |
| travel mm | : 2.44 | Tolerance mm : +- 0.50 |
| Tolerance mm | : + 0.25 | Rated speed rpm : 1550 |
| Rated speed rpm guide sleeve | : 500 | |
| travel mm | : 2.99 | |
| Tolerance mm | : + 0.25 | LOW IDLE |

D01

| control lever position degree tolerance degree | : 80.0 : ← 4.0 |
|---|---------------------------------------|
| Setting point w/o | out bumper spring |
| Rated speed rpm | : 100 |
| CRT mm min. | : > 7.60 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 6.90 : + 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mma | : 1300 : 12.25 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 575 : 12.25 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 700 : 12.25 : ← 0.10 |
| Rated speed rpm Pressure hPa Tolerance mm | : 500 : - : ← 0.05 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 225 : 1.40 : + 0.10 |
| Pressure hPa rack travel mm Tolerance mm | : 170 : 0.40 : + 0.10 |
| Start interlock | |
| Rated speed rpm | : > 100 |

| Rated speed rpm | : < 220 |
|--|----------------------|
| Check speed 1/min | : > 80 |
| Check speed 1/min | : < 250 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure | 700 |
| hPa Rated speed rpm Del. quantity | : 700 : 575 |
| cm3/1000 strokes Tolerance | : 84.5 |
| cm3/1000 strokes Check tolerance | : + 1.5 |
| cm3/1000s. Spreed | : ← 4.0 |
| Tolerance cm3/1000 strokes | : 5.0 |
| Check tolerance cm3/1000s. | : 7.0 |
| Aneroid pressure | |
| hPa Rated speed rpm | : - : 500 |
| Del. quantity cm3/1000 strokes Tolerance | : 52.0 |
| cm3/1000 strokes Check tolerance | : +- 1.0 |
| cm3/1000s. | : +- 3.0 |
| STARTING FUEL DEL | IVERY |
| Rated speed rpm Del. quantity | : 100 |
| cm3/1000 strokes Tolerance | : 88.0 |
| cm3/1000 strokes Check tolerance | : ← 5.0 |
| cm3/1000s. | : ← 8.0 |
| LOW IDLE | |
| Rated speed rpm | : 300 |
| Rack travel in mon | o: 6.90 |
| Tolerance mm Del. quantity | : +- 0.10 |
| cm3/1000 strokes | : 11.0 |

| Tolerance cm3/1000 strokes | : +- | 2.0 |
|--|------|-----|
| Check tolerance cm3/1000s. Spreed | : +- | 4.5 |
| Tolerance cm3/1000 strokes Check tolerance | : | 3.5 |
| cm3/1000s. | : | 5.5 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 15.12.97 : ISO 4113

Combination No. : 0 403 446 177

Injection pump

Pump designation : PES6MW100/720RS1144

: 0 413 406 138 EP type number

6overnor

Governer design. : RQV300...1300MW48

Governer no.

: 9 420 983 966

Cust. part No. :

Customer spec. information Customer : MB-NFZ Motor : 0M366A Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : + 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm 3.75 Tolerance mm : +- 0.05

Check

tolerance mm : + - 0.10

Rack travel in mm: 10.50 Tolerance mm : **←** 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.05 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 78.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

| 1 | | • |
|--|---|------------------|
| Tolerance cm3/1000 strokes | . 35 | + control |
| CACTIONS STORES | • 3.9 | position |
| Check tolerance | | |
| cm3/1000s. | : 6.0 | + Rated s |
| CMD/ 10003. | . 0.0 | T Dool An |
| | | + Rack tra |
| | | + Toleran |
| 5.4 1 . 1 | 700 | † |
| Rated speed rpm | : 300 | + |
| | 7 44 | + FULL LO |
| Rack travel in ma Tolerance mm | h: 7.90 | † |
| | : ← 0.10 | + Rated s |
| Del. quantity | | + Aneroid |
| cm3/1000 strokes | : 11.0 | + hPa |
| Tolerance | | + Del. qui |
| cm3/1000 strokes | : ← 2.0 | + cm3/1000 |
| Check tolerance | | + Toleran |
| cm3/1000s. | : ← 4.5 | + cm3/1000 |
| Spreed | | + Check to |
| Tolerance | | + cm3/100 |
| cm3/1000 strokes | : 3.5 | Spreed |
| Check tolerance | | + Toleran |
| cm3/1000s. | : 5.5 | + cm3/100 |
| | | + Check to |
| | | + cm3/100 |
| (B) SETTING OF IN | WECTION PUMP | 1 |
| WITH GOVERNOR | | 1 |
| 000000000000000000000000000000000000000 | | 1 |
| | | |
| GUIDE SLEEVE TRAN | /FI | 1 |
| | | control |
| Rated speed rpm | : 1354 | position |
| guide sleeve | , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | toleran |
| travel mm | : 8.65 | 1 |
| Tolerance mm | : 8.65 : ← 0.15 | + RATED SI |
| | | + rack tr |
| Rated speed rpm | : 300 | Rated s |
| guide sleeve | . 355 | + Toleran |
| travel mm | : 1.37 | 1 |
| Tolerance mm | : +- 0.20 | Frack tra |
| TOTAL MINE IMIN | . , 0.20 | + Rated s |
| Rated speed rpm | : 885 | → Toleran |
| guide sleeve | . 005 | 7 TOCETAIN |
| | : 5.01 | T |
| travel mm | : 5.01 : +- 0.25 | + rack tra |
| Tolerance mm | : 4- 0.25 | + Toleran |
| | | + Rated s |
| Dadad amazal | . /.00 | l l |
| Rated speed rpm | : 490 | † |
| guide sleeve | | † |
| guide sleeve travel mm | : 2.86 | † |
| guide sleeve | | † |
| guide sleeve travel mm Tolerance mm | : 2.86 : ← 0.25 | LOW IDLI |
| guide steeve travel mm Tolerance mm Rated speed rpm | : 2.86 : ← 0.25 | LOW IDLI |
| guide steeve travel mm Tolerance mm Rated speed rpm guide steeve | : 2.86 : ← 0.25 : 1610 | ‡ |
| guide steeve travel mm Tolerance mma Rated speed rpm guide steeve travel mm | : 2.86 : ← 0.25 : 1610 : 11.50 | control |
| guide steeve travel mm Tolerance mm Rated speed rpm guide steeve | : 2.86 : ← 0.25 : 1610 | ‡ |
| guide steeve travel mm Tolerance mma Rated speed rpm guide steeve travel mm | : 2.86 : ← 0.25 : 1610 : 11.50 | control |
| guide steeve travel mm Tolerance mma Rated speed rpm guide steeve travel mm | : 2.86 : ← 0.25 : 1610 : 11.50 | control position |
| guide steeve travel mm Tolerance mma Rated speed rpm guide steeve travel mm | : 2.86 : + 0.25 : 1610 : 11.50 : + 0.50 | control position |

| control lever position degree Rated speed rpm | : - 1 : 1440 |
|---|--|
| Rack travel in mma Tolerance mma | : 10.00 : ← 2.00 |
| FULL LOAD DELIVER | Y AT FULL LOAD STOP |
| Rated speed rpm | : 1300 |
| Aneroid pressure hPa | • - |
| Del. quantity | · |
| cm3/1000 strokes Tolerance | : 78.0 |
| cm3/1000 strokes | : +- 1.0 |
| Check tolerance cm3/1000s. | : + 3.0 |
| Spreed | |
| Tolerance cm3/1000 strokes | : 3.5 |
| Check tolerance | . 3.3 |
| cm3/1000s. | : 6.0 |
| control lever position degree tolerance degree RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min | : 113.0 : + 4.0 : 10.00 : 1345 : + 5 |
| rack travel mm Rated speed rpm | : 4.00 : 1440 |
| Tolerance 1/min | : 1440 : +- 15 |
| rack travel mm Tolerance mm Rated speed rpm | : 0.50 : + 0.50 : 1550 |
| LOW IDLE | |
| | |
| control lever position degree tolerance degree | : 83.0 : + 4.0 |
| nosition degree | : + 4.0 |

| CRT mm min. | : > 8.70 | ‡ , |
|---|---------------------|------------|
| Testing: | | + ! |
| resting: | | + ! |
| Rated speed rpm | : 300 | Ţ |
| rack travel mm | : 7.90 | 1 |
| rack travel mm Tolerance mm | : + 0.10 | 1 ; |
| | | 1 - |
| Rated speed rpm | : 415 | + , |
| • • | | + (|
| · | | |
| TORQUE CONTROL | | + |
| Rated speed rpm | : 1300 | + |
| rack travel mm Tolerance mm | : 11.05 | + - |
| Tolerance mm | : + 0.05 | . + : |
| Rated speed rpm | : 800 | ‡ , |
| rack travel mm | 11 90 | Ţ ; |
| Rated speed rpm rack travel mm Tolerance mm | : + 0.10 | I : |
| | | Ţ : |
| Rated speed rpm | : 585 | \perp |
| rack travel mm | : 12.10 | 1 |
| rack travel mm Tolerance mm | : + 0.10 | + |
| Poted speed | . 1100 | + |
| Rated speed rpm | . 1100 . 11 20 | † |
| rack travel mm Tolerance mm | : + 0.10 | † |
| TO LET GIVE MIN | . — 0.10 | ‡ ; |
| | | + |
| Start interlock | | + |
| Rated speed rpm | : > 100 | ‡ ! |
| Rated speed rpm | : < 230 | Į, |
| nacca opeca i pa | | Ţ ; |
| Check | | ↓ : |
| speed 1/min | : > 80 | 1 , |
| Check | | + ; |
| speed 1/min | : < 250 | 1 |
| • | - | + : |
| | | • 🕂 - |
| FUEL DELIVERY CHA | RACTERISTICS | + |
| | | + |
| Aneroid pressure | | ‡ ' |
| hPa | : - | + |
| Rated speed rpm | : 800 | 1 |
| Del. quantity | | + - |
| cm3/1000 strokes | : 77.0 | + |
| Tolerance | | + 1 |
| cm3/1000 strokes | : +- 1.5 | + |
| Check tolerance | | + |
| cm3/1000s. | : + 4.0 | + |
| Spreed | • | + |
| Tolerance | | + |
| | : 5.0 | + |
| cm3/1000 strokes | • 5.0 | |
| cm3/1000 strokes Check tolerance cm3/1000s. | : 7.0 | + |

| Ananaid naces | | |
|--|--|-------------|
| Aneroid pressure hPa | : - | |
| Rated speed rpm | 585 | |
| rack travel mm Tolerance mm | : 12.10 : + 0.10 | |
| Del. quantity | | |
| cm3/1000 strokes Tolerance | : 70.0 | |
| cm3/1000 strokes | : ← 1.5 | |
| Check tolerance cm3/1000s. | | |
| CIID7 (0005. | : +- 4.0 | |
| | | |
| STARTING FUEL DEL | IVERY | |
| Rated speed rpm Del. quantity | : 100 | |
| cm3/1000 strokes | : 83.0 | |
| Tolerance cm3/1000 strokes | : +- 5.0 | |
| Check tolerance | | |
| cm3/1000s. | : +- 8.0 | |
| | | |
| | | |
| | | ·· |
| LOW IDLE | | |
| LOW IDLE Rated speed rpm | : 300 | |
| Rated speed rpm Rack travel in mm | 7.90 | |
| Rated speed rpm Rack travel in mm Tolerance mm | . | |
| Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes | 7.90 : + 0.10 | |
| Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance | 7.90 : + 0.10 : 11.0 | |
| Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | 7.90 : + 0.10 : 11.0 | |
| Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | 7.90 : + 0.10 : 11.0 | |
| Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | 7.90 : + 0.10 : 11.0 : + 2.0 | |
| Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes | 7.90 : + 0.10 : 11.0 : + 2.0 | |
| Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | 7.90 : + 0.10 : 11.0 : + 2.0 : + 4.5 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 446 216

Injection pump

Pump designation : PES6MW100/720RS1144 EP type number : 0 413 406 138

Governor

Governer design. : RQV300...1400MW48-8 Governer no. : 0 420 083 175

Cust. part No. :

Customer—spec. information Customer : MB-NFZ Motor : OM 366 A Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 715 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05
Check

Check tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm: +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.75 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 78.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 3.0

| Tolerance cm3/1000 strokes | : 3.5 | control lever position degree : - 1 |
|--|---|--|
| Check tolerance cm3/1000s. | : 6.0 | Rated speed rpm : 1590 |
| | | Rack travel in mm : 9.75 Tolerance mm : + 1.30 |
| Rated speed rpm | : 300 | FULL LOAD DELIVERY AT FULL LOAD STO |
| Rack travel in mm | 7.90 | T FOLL LOAD DELIVERY AT FOLL LOAD STO |
| Tolerance mm | : ← 0.10 | Rated speed rpm : 1400 |
| Del. quantity | 44.0 | Aneroid pressure |
| cm3/1000 strokes | : 11.0 | + hPa : - |
| Tolerance cm3/1000 strokes | · + 2 n | + Del. quantity + cm3/1000 strokes : 78.0 |
| Check tolerance | 2.0 | Tolerance |
| cm3/1000s. | : +- 4.5 | cm3/1000 strokes : +- 1.0 |
| Spreed | | + Check tolerance |
| Tolerance | _ | $\frac{1}{2}$ cm3/1000s. : +- 3.0 |
| cm3/1000 strokes | | + Spreed |
| Check tolerance | | + Tolerance |
| cm3/1000s. | : 5.5 | cm3/1000 strokes : 3.5 |
| | | † Check tolerance + cm3/1000s. : 6.0 |
| GUIDE SLEEVE TRAV | | CONTROL LEVER |
| | | 1 |
| | . 4157 | - control lever |
| | : 1453 | position degree : 111.0 |
| guide sleeve | | · · |
| guide sleeve travel mm | : 8.30 | position degree : 111.0 |
| Rated speed rpm guide sleeve travel mm Tolerance mm | : 8.30 : + 0.15 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 |
| guide sleeve travel mm Tolerance mm Rated speed rpm | : 8.30 : +- 0.15 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve | : 8.30 : +- 0.15 : 300 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm | : 8.30 : +- 0.15 : 300 : 1.22 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm | : 8.30 : +- 0.15 : 300 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm | : 8.30 : + 0.15 : 300 : 1.22 : + 0.20 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm | : 8.30 : + 0.15 : 300 : 1.22 : + 0.20 : 594 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 |
| guide steeve travel mm Folerance mm Rated speed rpm guide steeve travel mm Folerance mm Rated speed rpm guide steeve travel mm | : 8.30 : + 0.15 : 300 : 1.22 : + 0.20 : 594 : 3.30 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm | : 8.30 : + 0.15 : 300 : 1.22 : + 0.20 : 594 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 |
| guide steeve travel mm Folerance mm Rated speed rpm guide steeve travel mm Folerance mm Rated speed rpm guide steeve travel mm Folerance mm Rated speed rpm Rated speed rpm | : 8.30 : + 0.15 : 300 : 1.22 : + 0.20 : 594 : 3.30 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : 0.50 Tolerance mm : + 0.50 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm | : 8.30 : ← 0.15 : 300 : 1.22 : ← 0.20 : 594 : 3.30 : ← 0.25 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : 0.50 Tolerance mm : + 0.50 |
| guide sleeve cravel mm Tolerance mm Rated speed rpm guide sleeve cravel mm Rated speed rpm guide sleeve cravel mm Tolerance mm Rated speed rpm guide sleeve cravel mm Tolerance mm | : 8.30 : + 0.15 : 300 : 1.22 : + 0.20 : 594 : 3.30 : + 0.25 : 400 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1650 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm | : 8.30 : + 0.15 : 300 : 1.22 : + 0.20 : 594 : 3.30 : + 0.25 : 400 : 2.30 : + 0.25 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : 0.50 Tolerance mm : + 0.50 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Rated speed rpm | : 8.30 : + 0.15 : 300 : 1.22 : + 0.20 : 594 : 3.30 : + 0.25 : 400 : 2.30 : + 0.25 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1650 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm | 8.30 + 0.15 300 1.22 + 0.20 594 3.30 + 0.25 400 2.30 + 0.25 1770 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1650 LOW IDLE |
| guide sleeve travel mm | : 8.30 : + 0.15 : 300 : 1.22 : + 0.20 : 594 : 3.30 : + 0.25 : 400 : 2.30 : + 0.25 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1650 |
| guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm | : 8.30 : + 0.15 : 300 : 1.22 : + 0.20 : 594 : 3.30 : + 0.25 : 400 : 2.30 : + 0.25 : 1770 : 11.50 : + 0.50 | position degree : 111.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1445 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1550 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1650 LOW IDLE control lever position degree : 80.0 |

| CRT mm min. | : > 10.00 |
|--|--|
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 7.90 : ← 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1400 : 10.75 : ← 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 750 : 12.25 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | |
| Rated speed rpm rack travel mm Tolerance mm | : 1200 : 10.95 : +- 0.15 |
| | |
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 100 : < 200 |
| Check speed 1/min Check | : > 80 |
| speed 1/min | : < 230 |
| | |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm | RACTERISTICS : - : 750 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes | : - |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : - : 750 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : - : 750 : 78.0 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : - : 750 : 78.0 : + 1.5 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | : - : 750 : 78.0 : + 1.5 : + 4.0 |

009

| | : +- | 0.10 | |
|--|-------|---|--|
| STARTING FUEL DEL | IVERY | | |
| Rated speed rpm | : | 100 | |
| Del. quantity cm3/1000 strokes | : | 83.0 | |
| Tolerance cm3/1000 strokes | : +- | 5.0 | |
| Check tolerance | ; +- | 5.0 | |
| cm3/1000s. | : +- | 8.0 | |
| LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | : +- | 300 7.90 0.10 11.0 2.0 4.5 | |
| cm3/1000 strokes Check tolerance | • | 2.2 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.12.97 Edition Test oil : ISO 4113

Combination No. : 0 403 446 280

Injection pump

Pump designation : PES6MW100/720RS1131

: -1

EP type number : 0 413 406 165

6overnor

Governer design. : RQV300...1300MW50

: -19

: 0 420 083 245 Governer no.

Cust. part No. : 0210742202

Customer-spec. information Customer : MB-NFZ

: 0M366LA Motor Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 015

Outside diameter :

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

r: 31.0 :+- 1.0 Test pressure bar : Tolerance bar

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.15 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 100.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: **←** 3.0

| | + Tolerance mm : + 0.25 |
|---|---|
| Tolerance cm3/1000 strokes : 3.5 | T Botad speed sure 4/05 |
| CHO/ TOUG SCPOKES : 3.3 | + Rated speed rpm : 1485 + guide sleeve |
| Check tolerance | + travel mm : 10.00 |
| cm3/1000s. : 6.0 | Tolerance mm : + 0.25 |
| | Rated speed rpm : 1620 |
| | guide sleeve |
| Rated speed rpm : 300 | + travel mm : 11.50 |
| - · · · · · · · · · · · · · · · · · · · | + Tolerance mm : + 0.50 |
| Rack travel in mm: 6.50 | † |
| Tolerance mm : + 0.10 | |
| Del. quantity | + GUIDE SLEEVE POSITION |
| cm3/1000 strokes : 12.0 | † |
| Tolerance cm3/1000 strokes : + 2.0 | † ambuul lassa |
| Check tolerance | control lever |
| cm3/1000S. : +- 4.5 | position degree : -1 Rated speed rpm : 1350 |
| Spreed | T Raced speed rpin : 1550 |
| Tolerance | Rack travel in mm: 16.50 |
| cm3/1000 strokes : 3.5 | Tolerance mm : +- 1.30 |
| Check tolerance | 1 occi di ice imi |
| cm3/1000s. : 5.5 | |
| | FULL LOAD DELIVERY AT FULL LOAD STOP |
| (B) SETTING OF INJECTION PUMP | + Rated speed rpm : 1300 |
| WITH GOVERNOR | Aneroid pressure |
| MIIII GOAFIMON | hPa : 1000 |
| | Del. quantity |
| Out 5 5 01 mm /m 55 11 mm | 7.4400 |
| GUIDE SLEEVE TRAVEL | + cm3/1000 strokes : 100.0 |
| GUIDE SLEEVE TRAVEL | + cm3/1000 strokes : 100.0 + Tolerance |
| Rated speed rpm : 1360 | |
| Rated speed rpm : 1360 guide sleeve | Tolerance cm3/1000 strokes : + 1.0 Check tolerance |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 | Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance - cm3/1000s. : + 3.0 |
| Rated speed rpm : 1360 guide sleeve | Tolerance |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 | Tolerance cm3/1000 strokes : + 1.0 check tolerance cm3/1000s. : + 3.0 Spreed Tolerance |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 | Tolerance |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 | Tolerance |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 721 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 22.82 Tolerance mm : 721 guide sleeve | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 225 Rated speed rpm : 721 guide sleeve travel mm : 5.69 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 RATED SPEED |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 22.82 Tolerance mm : 721 guide sleeve | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.10 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 721 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.10 Rated speed rpm : 1350 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 721 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 5.69 Tolerance mm : + 0.25 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.10 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 721 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.10 Rated speed rpm : 1350 Tolerance 1/min : + 5 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 721 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 771 guide sleeve travel mm : 771 guide sleeve travel mm : 6.11 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.10 Rated speed rpm : 1350 Tolerance 1/min : + 5 rack travel mm : 4.00 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 721 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.10 Rated speed rpm : 1350 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 721 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.10 Rated speed rpm : 1350 Tolerance 1/min : + 5 rack travel mm : 4.00 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 721 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 771 guide sleeve travel mm : 6.11 Tolerance mm : + 0.25 Rated speed rpm : 6.11 Tolerance mm : + 0.25 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.10 Rated speed rpm : 1350 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 Tolerance 1/min : + 15 |
| Rated speed rpm : 1360 guide sleeve travel mm : 8.64 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 0.92 Tolerance mm : + 0.25 Rated speed rpm : 2240 guide sleeve travel mm : 24.82 Tolerance mm : + 0.25 Rated speed rpm : 721 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 118.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.10 Rated speed rpm : 1350 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 |

| Rated speed rpm | : 1600 | † † | rack travel man Tolerance man | : 11.25 : + 0.05 |
|--------------------------------|-------------------|--------------|-------------------------------------|---------------------|
| | | } | Start interlock | |
| LOW IDLE | | † | 0-4 | . > 400 |
| | | 1 | Rated speed rpm Rated speed rpm | |
| control lever | | I | Raced speed rpill | . \ 220 |
| position degree | : 80.0 | 1 | Check | |
| tolerance degree | : +- 4.0 | + | speed 1/min | : > 80 |
| 0-443 | | † | Check | . 2/2 |
| Setting point w/o | out bumper spring | ‡ | speed 1/min | : < 240 |
| Rated speed rpm | : 200 | + | FUEL DEL TUEDY CUA | ADACTEDIOTICS |
| CRT mm min. | : > 8.00 | • ‡ | FUEL DELIVERY CHA | ARACIERISTICS |
| Testing: | | 1 | Aneroid pressure | |
| | 7 | + | hPa | : 1000 |
| Rated speed rpm | : 300 : 6.50 | t | Rated speed rpm | : 750 |
| rack travel mm Tolerance mm | : + 0.10 | 1 | Del. quantity cm3/1000 strokes | . 02 0 |
| TOTEL OFFICE 1888 | 0.10 | I | Tolerance | . 72.0 |
| | | | cm3/1000 strokes | : ← 1.5 |
| TORQUE CONTROL | | + | Check tolerance | |
| Rated speed rpm | | + | cm3/1000s. | : ← 4.0 |
| rack travel mm | | † | Spreed | |
| Tolerance mm | : ← 0.05 | I | Tolerance cm3/1000 strokes | : 5.0 |
| Rated speed rpm | : 750 | 1 | Check tolerance | . 5.0 |
| rack travel mm Tolerance mm | : 13.15 | + | cm3/1000s. | : 7.0 |
| Tolerance mm | : ← 0.10 | + | | |
| | | † | Approved procesure | |
| ANEROID/ALTITUDE | | | Aneroid pressure hPa | • _ |
| COMPENSATOR TEST | | 1 | Rated speed rpm | 500 |
| | | + | Del. quantity | |
| | | + | cm3/1000 strokes | : 43.0 |
| SETTING | | † | Tolerance | 4.0 |
| Rated speed rpm | : 500 | I | cm3/1000 strokes Check tolerance | : +- 1.0 |
| Pressure hPa | : 1000 | 1 | cm3/1000s. | : ← 3.0 |
| rack travel mm | : 13.15 | + | | |
| Tolerance mm | : ← 0.10 | + | | |
| Rated speed rpm | : 500 | Ī | STARTING FUEL DEL | TVERY |
| Pressure hPa | : - | 1 | OTANIENG FOLL DEL | TYCKI |
| rack travel mm | : 10.55 | + | Rated speed rpm | : 100 |
| Tolerance mm | : ← 0.05 | + | Del. quantity | |
| | | † | cm3/1000 strokes | : 105.0 |
| MEASUREMENT | | † | Tolerance cm3/1000 strokes | : +- 5.0 |
| Rated speed rpm | : 500 | I | Check tolerance | : 5.0 |
| mated opeca (pill | . 500 | 1 | cm3/1000s. | : +- 8.0 |
| Pressure hPa | : 350 | + | | |
| rack travel mm | : 12.55 | + | | |
| Tolerance mm | : ← 0.15 | † | | |
| Pressure hPa | : 200 | ‡ | LOW IDLE | |

| Rated speed rpm | : | | 300 |
|--|---|----|--------------|
| Rack travel in mm Tolerance mm | : | +- | 6.50 0.10 |
| Del. quantity cm3/1000 strokes Tolerance | : | | 12.0 |
| cm3/1000 strokes Check tolerance | : | +- | 2.0 |
| cm3/1000s. Spreed | : | +- | 4.5 |
| Tolerance cm3/1000 strokes Check tolerance | : | | 3.5 |
| cm3/1000s. | : | | 5.5 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 446 303

Injection pump

Pump designation: PES6MW100/720RS1131

: -1

EP type number : 0 413 406 165

Governor

Governer design. : RQV300...1300MW50

: -25

: 0 420 083 271 Governer no.

Cust. part No. : 0220745302

Customer-spec. information Customer : MB-NFZ

Motor : 0M366LA Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : ← 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : +-3.65 : **←** 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 12.95 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 96.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: **←** 3.0

| | + Tolerance mm : +- 0.25 |
|--|--|
| Tolerance | + |
| cm3/1000 strokes : 3.5 | Rated speed rpm : 1600 guide sleeve |
| Check tolerance | travel mm : 11.50 |
| cm3/1000s. : 6.0 | Tolerance mm : + 0.50 |
| | |
| | + GUIDE SLEEVE POSITION |
| Rated speed rpm : 300 | ‡ |
| Rack travel in mm: 7.15 | + control Lever |
| Tolerance mm : + 0.10 | + position degree : 116 |
| Del. quantity | + Rated speed rpm : 1400 |
| cm3/1000 strokes : 12.0 Tolerance | Pools travel in our section 20.00 |
| cm3/1000 strokes : +- 2.0 | + Rack travel in mm : 10.00 + Tolerance mm : + 2.00 |
| Check tolerance | Toterance min : 7 2.00 |
| cm3/1000s. : +- 4.5 | |
| Spreed | + FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | + |
| cm3/1000 strokes : 3.5 | + Rated speed rpm : 1300 |
| Check tolerance | + Aneroid pressure |
| cm3/1000s. : 5.5 | + hPa : 1000 |
| | + Del. quantity |
| (D) CETTING OF THIS COUNTY | + cm3/1000 strokes : 96.0 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | + Tolerance + cm3/1000 strokes : +- 1.0 |
| WITH GOVERNOR | + Check tolerance |
| | + cm3/1000s. : +- 3.0 |
| GUIDE SLEEVE TRAVEL | + Spread |
| | + Tolerance |
| Rated speed rpm : 1354 | + cm3/1000 strokes : 3.5 |
| guide sleeve | + Check tolerance |
| travel mm : 8.68 Tolerance mm : + 0.25 | + cm3/1000s. : 6.0 |
| Toter write han . +- U.25 | I |
| Rated speed rpm : 300 | |
| guide sleeve | + CONTROL LEVER |
| travel mm : 1.40 | + |
| Tolerance mm : + 0.25 | + control lever |
| ~ | + position degree : 113.0 |
| Rated speed rpm : 881 | tolerance degree : +- 4.0 |
| guide steeve | + RATED SPEED |
| guide sleeve travel mm : 5.02 Tolerance mm : + 0.25 | rack travel mm : 11.95 |
| TOTAL MARKET TOTAL | Rated speed rpm : 1345 |
| Rated speed rpm : 363 | + Tolerance 1/min : + 5 |
| • • | + |
| guide sleeve travel mm : 2.05 Tolerance mm : + 0.25 | † rack travel mm : 4.00 |
| Tolerance mma : ← 0.25 | + Rated speed rpm : 1470 |
| B A 1 could be 747 | + Tolerance 1/min : + 15 |
| Rated speed rpm : 413 | The state of the s |
| gurae steeve | rack travel mm : 0.50 |
| guide sleeve travel mm : 2.44 Tolerance mm : + 0.25 | Tolerance mm : + 0.50 Rated speed rpm : 1550 |
| TOTAL CONTRACTOR CONTR | T nated speed this : 1930 |
| Rated speed rpm : 500 | 1 |
| guide sleeve | + |
| travel mm : 2.99 | + |
| | • |

LOW IDLE

control lever

position degree : 80.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.20

Testing:

Rated speed rpm : 300 rack travel mm : 7.15 Tolerance mm : + 0.10

TOTAL THE IMP

TORQUE CONTROL

Rated speed rpm : 1300 rack travel mm : 12.95 Tolerance mm : + 0.05

Rated speed rpm : 750 rack travel mm : 12.95 Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.95
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : Tolerance mm : +- 0.05

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 350 rack travel mm : 1.70 Tolerance mm : + 0.15

Pressure hPa : 200 rack travel mm : 0.40 Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100 Rated speed rpm : < 220

Check

speed 1/min :> 80 Check speed 1/min :< 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1000 Rated speed rpm : 750

Del. quantity cm3/1000 strokes : 86.0

Tolerance cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. : - 4.0
Spreed

Tolerance

cm3/1000 strokes : 5.0 Check tolerance

cm3/1000s. : 7.0

Aneroid pressure hPa :

Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 42.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes : + 5.0

Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 300

| Rack travel in mm Tolerance mm | : | + | 7.15 0.10 |
|--|---|----|--------------|
| Del. quantity cm3/1000 strokes Tolerance | : | | 12.0 |
| cm3/1000 strokes Check tolerance | : | +- | 2.0 |
| cm3/1000s. Spreed | : | + | 4.5 |
| Tolerance cm3/1000 strokes Check tolerance | : | | 3.5 |
| cm3/1000s. | : | | 5.5 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Fdition Test oil

: 15,12,97 : ISO 4113

Combination No. : 0 403 446 310

Injection pump

Pump designation : PES6MW100/320RS1227Z

EP type number : 0 413 406 217

Governor

Governer design. : RQV325...1300MW126

Governer no.

: 0 420 083 279

Cust. part No. : 1249952

Customer-spec. information

Customer : DAF

Motor

: NS133L

Power KW

: 133.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar: 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

bar Tolerance bar

: + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

D18

x inside diameter : 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm 3.05 : +- 0.05 Tolerance mm

Check

tolerance name : +- 0.70

Rack travel in mm: 13.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 11.85 : +- 0.05

Tolerance mm

Del. quantity

cm3/1000 strokes : 94.5

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: +- 3.0

| Tolerance cm3/1000 strokes : 3.5 | Rated speed rpm : 1600 guide sleeve |
|---|---|
| Check tolerance cm3/1000s. : 6.0 | travel mm : 11.50 Tolerance mm : +- 0.50 |
| Rated speed rpm : 325 | GUIDE SLEEVE POSITION |
| Rack travel in mm: 4.50 Tolerance mm : + 0.10 | control lever position degree : - 1 |
| Del. quantity cm3/1000 strokes : 9.0 Tolerance | Rated speed rpm : 1350 Rack travel in mm : 16.50 |
| cm3/1000 strokes : + 2.0 + Check tolerance cm3/1000s. : + 4.5 | Tolerance mm : +- 1.30 |
| Spreed + Tolerance + cm3/1000 strokes : 3.5 | FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 |
| Check tolerance cm3/1000s. : 5.5 | Aneroid pressure hPa : 1000 Del. quantity |
| (B) SETTING OF INJECTION PUMP | cm3/1000 strokes : 94.5 Tolerance |
| WITH GOVERNOR | cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 |
| GUIDE SLEEVE TRAVEL. | Spreed Tolerance |
| Rated speed rpm : 1334 guide sleeve | cm3/1000 strokes : 3.5 Check tolerance |
| travel mm : 8.48 + Tolerance mm : + 0.25 + | cm3/1000s. : 6.0 |
| Rated speed rpm : 325 guide sleeve travel mm : 1.67 | CONTROL LEVER |
| Tolerance mm : + 0.25 | control lever position degree : 122.0 |
| Rated speed rpm : 872 guide sleeve travel mm : 4.97 | tolerance degree : + 4.0 RATED SPEED |
| Tolerance mm : + 0.25 Rated speed rpm : 363 | rack travel mm : 10.85 Rated speed rpm : 1332 |
| Rated speed rpm : 363 guide sleeve travel mm : 2.05 | Tolerance 1/min : +- 8 rack travel mm : 4.00 |
| Tolerance mm : + 0.25 | Rated speed rpm : 1455 Tolerance 1/min : + 15 |
| Rated speed rpm : 413 + guide sleeve + travel mm : 2.50 + | rack travel mm : 0.50 Tolerance mm : +- 0.50 |
| Tolerance mm : + 0.25 | Rated speed rpm : 1550 |
| Rated speed rpm : 490 + guide sleeve + travel mm : 2.93 + | |
| Tolerance mm : ± 0.25 | LOW IDLE |

| control lever position degree tolerance degree | : 82.0 : ← 4.0 |
|---|--|
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 225 |
| CRT man main. | : > 6.00 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 325 : 4.50 : + 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1000 : 11.85 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 1300 : 11.85 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 600 : 1000 : 11.85 : + 0.05 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 600 : 290 : 11.25 : + 0.05 |
| MEASUREMENT | |
| Rated speed rpm | : 600 |
| Pressure hPa rack travel mm | : - : 9.90 : + 0.10 |
| Tolerance mm | . +- 0.10 |

| | | _ |
|---|------------------------|---|
| Aneroid pressure hPa Rated speed rpm | : 1000 : 1300 | |
| Del. quantity cm3/1000 strokes Tolerance | : 92.0 | |
| cm3/1000 strokes Check tolerance | : ← 1.5 | |
| cm3/1000s. Spreed | : +- 4.0 | |
| Tolerance cm3/1000 strokes | : 5.0 | |
| Check tolerance cm3/1000s. | : 7.0 | |
| | | |
| | | |
| Aneroid pressure | • | _ |
| hPa Rated speed rpm | : - : 600 | |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes | : - : 600 : 63.0 | |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | | |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : 63.0 | |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : 63.0 : ← 1.0 | |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : 63.0 : ← 1.0 | |

| LOM T | Di | _ |
|-------|-----|---|
| | 131 | - |

| Rated speed rpm | : | | 325 |
|--|---|----|--------------|
| Rack travel in mm Tolerance mm | : | +- | 4.50 0.10 |
| Del. quantity cm3/1000 strokes Tolerance | : | | 9.0 |
| cm3/1000 strokes Check tolerance | : | +- | 2.0 |
| cm3/1000s. Spreed | : | +- | 4.5 |
| Tolerance cm3/1000 strokes Check tolerance | : | | 3.5 |
| cm3/1000s. | : | | 5.5 |
| | | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 466 156

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV450...1100MW2A374

6overner no. : 0 420 085 257

Cust. part No. : 3926881

Customer-spec. information

Customer : CDC

Motor : 6 CT-830 Power KW : 160.0

TEST BENCH REQUIREMENTS

Test of inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 har : + 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length man

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ___

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke ma Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50 Check

tolerance *NW : **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 8.00

Check

Tolerance : + 0.50

tolerance *NW

: **←** 0.75

Barrel no.

1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 12.00 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 143.0

| Tolerance | † Tolerance |
|--|---|
| cm3/1000 strokes : + 1.0 | + cm3/1000 strokes : +- 1.0 |
| | † Check tolerance |
| Check tolerance | + cm3/1000S. : $+$ 4.0 |
| cm3/1000s. : + 4.0 | + Spreed |
| | + Tolerance |
| Spreed | + cm3/1000 strokes : 4.0 |
| | + Check tolerance |
| Tolerance | + cm3/1000s. : 7.5 |
| cm3/1000 strokes : 4.0 | + |
| | + |
| Check tolerance | |
| cm3/1000s. : 7.5 | + CONTROL LEVER |
| | . |
| | + control lever |
| | + position degree : 104.0 |
| Rated speed rpm : 450 | tolerance degree : + 4.0 |
| n 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | † |
| Rack travel in mm: 5.30 | + RATED SPEED |
| Tolerance min : + 0.20 | rack travel mm : 10.90 |
| Del. quantity | + Rated speed rpm : 1150 |
| cm3/1000 strokes : 12.0 | Tolerance 1/min : + 5 |
| Tolerance | † , , , , , , , , , , , , , , , , , , , |
| cm3/1000 strokes : + 2.0 | + rack travel mm : 4.00 |
| Check tolerance | Rated speed rpm : 1265 |
| cm3/1000s. : + 4.5 | + Tolerance 1/min : +- 15 |
| Spreed Tolonopa | 7 |
| Tolerance cm3/1000 strokes : 3.5 | rack travel mm : 0.85 |
| Check tolerance | + Tolerance mm : + 0.55 + Rated speed rpm : 1375 |
| cm3/1009s. : 5.5 | † Rated speed rpm : 1375 |
| U35/ 10058 | T rack travel mm : 4.00 |
| | Rated speed rpm : 1275 |
| (B) SETTING OF INJECTION PUMP | + Tolerance 1/min : +- 15 |
| WITH GOVERNOR | T roceratice mini. |
| CUASE OF EDUCATION | |
| GUIDE SLEEVE POSITION | + LOW IDLE |
| control lever | t control lever |
| | + position degree : 82.0 |
| position degree : - 3 Rated speed rpm : 800 | tolerance degree : +- 4.0 |
| nated opecu i piii i ooo | toter ance degree . * - 4.0 |
| Rack travel in mm : 0.65 Tolerance mm : +- 0.35 | Setting point w/out bumper spring |
| TO COLOR (MILE) | Rated speed rpm : 450 |
| governor spring | + rack travel mm : 4.80 |
| pre-tension | + Tolerance mm : + 0.10 |
| click setting x : 4.75 | Total di loc limin |
| Till Colling A . Till | Rated speed rpm : 100 |
| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | Traced opeco (pill 1 100 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | + CRT mm min. : > 19.50 |
| | |
| Rated speed rpm : 1100 | Testing: |
| Aneroid pressure | + |
| hPa : 1100 | Rated speed rpm : 450 |
| Del. quantity | rack travel mm : 5.30 |
| cm3/1000 strokes : 143.0 | + Tolerance mm : + 0.20 |
| is the second of | |

TORQUE CONTROL
Rated speed rpm : 1100
rack travel mm : 12.00
Tolerance mm : + 0.05

Rated speed rpm : 750

Rated speed rpm : 750 rack travel mm : 12.40 Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1100
rack travel mm : 12.45
Tolerance mm : +- 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 10.40
Tolerance mm : +- 0.05

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 850 rack travel ma : 12.00 Tolerance ma : + 0.20

Pressure hPa : 625
rack travel mm : 11.00
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 750
Del. quantity
cm3/1000 strokes : 154.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 5.0
Spreed

Spreed
Tolerance
cm3/1000 strokes :

cm3/1000 strokes : 6.0
Check tolerance
cm3/1000s. : 9.0

Aneroid pressure

hPa : -Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 115.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Check hydraulic start locking and unlocking device with 500...1000 hPa.

: + 13.0

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00
Del. quantity
cm3/1000 strokes : 170.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance

LOW IDLE

cm3/1000s.

Rated speed rpm : 450 Rack travel in mm : 5.30 Tolerance mm 0.20 Del. quantity cm3/1000 strokes : 12.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s.: +-4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 474 008H

Injection pump

Pump designation : PES4MW100/720RS1181

EP type number : 0 413 404 107

Governor

Governer design. : RSV400...1000MW1A333

Governer no. : 0 420 085 118

Cust. part No. :

Customer-spec. information

Customer : LIEBHERR : D 914 T Motor Power KW : 106.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C 40 : + 2.0 Tolerance °C

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar : 173.5 Tolerance bar : **←** 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 600 x Length mam:

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 31.0 Tolerance bar : ← 1.0

Prestroke mm 3.05 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing Tolerance : +- 0.50

Check

tolerance *NW : +~ 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 10.65

Tolerance mm : **←** 0.05

Del. quantity cm3/1000 strokes : 137.5

Tolerance cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : + 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance 7.5 cm3/1000s.

D24

| | control lever |
|--|--|
| Rated speed rpm : 400 | <pre>position degree : 103.0 tolerance degree : + 4.0</pre> |
| | + |
| Rack travel in mm : 6.25 Tolerance mm : + 0.10 | + RATED SPEED |
| Del. quantity | rack travel mm : 9.65 Rated speed rpm : 1025 |
| cn3/1000 strokes : 22.0 | + Tolerance 1/min : +- 5 |
| Tolerance | T Total de l'Amilia : 1 m 3 |
| cm3/1000 strokes : + 2.0 | rack travel mm : 4.00 |
| Check tolerance | + Rated speed rpm : 1065 |
| cm3/1000s. : + 4.5 | + Tolerance 1/min : +- 10 |
| Spreed | + |
| Tolerance | + rack travel mm : 1.00 |
| cm3/1000 strokes : 3.5 | Tolerance mm : + 0.70 Rated speed rpm : 1175 |
| Check tolerance | + Rated speed rpm : 1175 |
| cm3/1000s. : 5.5 | t south trough and the control of th |
| | + rack travel mm : 4.00 + Rated speed rpm : 1065 |
| (B) SETTING OF INJECTION PUMP | + Rated speed rpm : 1065 + Tolerance 1/min : + 15 |
| WITH GOVERNOR | I Toterance Training 19 |
| WITH GOVERNOON | I |
| | + |
| | |
| GUIDE SLEEVE POSITION | + LOW IDLE |
| | † |
| control lever | T control lever |
| position degree : - 3 | position degree : 76.0 |
| Rated speed rpm : 800 | tolerance degree : + 4.0 |
| Match opera (pm) | Total and degree 1 |
| Rack travel in mm : 0.65 | Setting point w/out bumper spring |
| Tolerance mm : +- 0.35 | + |
| | + Rated speed rpm : 400 |
| governor_spring | rack travel mm : 5.25 |
| pre-tension | † Tolerance mm : + 0.10 |
| click setting x : 4.00 | t Dated aread are 100 |
| | Rated speed rpm : 100 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | CRT man min. : > 19.00 |
| | + |
| Rated speed rpm : 1000 | + Testing: |
| Aneroid pressure | + |
| hPa : - | + Rated speed rpm : 400 |
| Del. quantity | + rack travel mm : 6.25 |
| cm3/1000 strokes : 137.5 | † Tolerance mm : ← 0.10 |
| Tolerance cm3/1000 strokes : +- 1.0 | † |
| cm3/1000 strokes : + 1.0 Check tolerance | TORQUE CONTROL |
| cm3/1000s. : +- 4.0 | + Rated speed rpm : 1000 |
| Spreed | + rack travel ma : 10.65 |
| Tolerance | Tolerance mm : + 0.05 |
| cm3/1000 strokes : 4.0 | 1 |
| Check tolerance | Rated speed rpm : 500 |
| cm3/1000s. : 7.5 | rack travel mm : 10.65 |
| | + Tolerance mm : + 0.05 |
| | + |
| | + Rated speed rpm : 700 |
| CONTROL LEVER | + rack travel mm : 10.65 |
| | |

| Tolerance mm | : ← 0.05 |
|---|------------------------------|
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm Del. quantity | : - : 500 |
| cm3/1000 strokes Tolerance | : 130.0 |
| cm3/1000 strokes Check tolerance cm3/1000s. | : + 2.0 : + 5.0 |
| Spreed Tolerance | |
| cm3/1000 strokes Check tolerance | : 6.0 |
| cm3/1000s. | : 9.0 |
| Aneroid pressure hPa Rated speed rpm | : - : 700 |
| rack travel mm Tolerance mm | : 10.65 : + 0.05 |
| Del. quantity cm3/1000 strokes Tolerance | : 141.5 |
| cm3/1000 strokes Check tolerance | : +- 2.0 |
| cm3/1000s. | : +- 5.0 |
| STARTING FUEL DEL | IVERY |
| Rated speed rpm rack travel mm Tolerance mm | ; 100 : 20.00 : ← 1.00 |
| Del. quantity cm3/1000 strokes | |
| Tolerance cm3/1000 strokes Check tolerance | |
| cm3/1000s. | : ← ੑ 8.0 |
| LOW IDLE | |
| Rated speed rpm | : 400 |
| Rack travel in mm Tolerance mm | : . 6.25 : + 0.10 |

| Del. quantity | | |
|------------------|------|------|
| cm3/1000 strokes | : | 22.0 |
| Tolerance | | |
| cm3/1000 strokes | : +- | 2.0 |
| Check tolerance | | |
| cm3/1000s. | : +- | 4.5 |
| Spreed | | |
| Tolerance | | |
| cm3/1000 strokes | : | 3.5 |
| Check tolerance | | |
| cm3/1000s. | : | 5.5 |
| | | |
| | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.12.97 : ISO 4113

Combination No. : 0 403 474 016

Injection pump

Pump designation : PES4MW100/720RS1212

EP type number : 0 413 404 114

Sovemor

Governer design. : RSV350...1300MW0A346

Governer no. : 0 420 085 175

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : 0M364LA Motor : 102.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: + 1.5

Test lines

: 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 31.0 Tolerance bar : + 1.0

Prestroke mm 3.75 Tolerance mm : ← 0.05

Check

tolerance am : **←** 0.10

Rack travel in na : 10.50 : ← 1.50 Tolerance num

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : **←** 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.25 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 104.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: + 3.0

| Tolerance + cm3/1000 strokes : 3.5 + | |
|--|--|
| <u> </u> | CONTROL LEVER |
| Check tolerance cm3/1000s. : 6.0 | control lever position degree : 108.0 |
| , 1 | tolerance degree : +- 4.0 |
| Rated speed rpm : 350 Del. quantity | RATED SPEED |
| cm3/1000 strokes : 12.0 + Tolerance + | rack travel mm : 1.00 Tolerance mm : +- 0.70 |
| cm3/1000 strokes : + 2.0 + Check tolerance + | Rated speed rpm : 1500 |
| cm3/1000s. : + 4.5 Spreed | rack travel mm : 4.00 Rated speed rpm : 1425 |
| Tolerance cm3/1000 strokes : 3.5 | Tolerance 1/min : +- 15 |
| Check tolerance + cm3/1000s. : 5.5 | rack travel mm : 12.20 Rated speed rpm : 1353 |
| + | Tolerance 1/min : + 8 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | ASSEMBLY GOVERNOR SETTING |
| + | Rated speed rpm : 1340 |
| † | rack travel mm : 12.25 |
| GUIDE SLEEVE POSITION | Rated speed rpm : 1384 Tolerance 1/min : +- 4 |
| - | rack travel mm : 4.00 |
| control lever + position degree : -3 + | |
| Rated speed rpm : 800 | Rated speed rpm : 1341 |
| Rack travel in mm: 0.65 | rack travel mm : 12.25 |
| Tolerance mm : +- 0.35 | Rated speed rpm : 1385 |
| governor spring + | Tolerance 1/min : + 4 rack travel mm : 4.00 |
| pre-tension + | 1 300 1 3000 11111 1 7.00 |
| click setting x : 4.00 | Rated speed rpm : 1342 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | rack travel mm : 12.25 |
| 1700 | Rated speed rpm : 1386 |
| Rated speed rpm : 1300 + Aneroid pressure + | Tolerance 1/min : + 4 rack travel mm : 4.00 |
| hPa : 700 + Del. quantity + | |
| cm3/1000 strokes : 104.0 | Rated speed rpm : 1343 |
| Tolerance + 1.0 + 1.0 | rack travel mm : 12.25 |
| Check tolerance + | Rated speed rpm : 1387 |
| cm3/1000s. : +- 3.0 | Tolerance 1/min : + 4 |
| Spreed + Tolerance + | rack travel mm : 4.00 |
| cm3/1000 strokes : 3.5 | Dakad amandanan Azar |
| Check tolerance + cm3/1000s. : 6.0 + | Rated speed rpm : 1344 rack travel mm : 12.25 |
| | |
| + | Rated speed rpm : 1388 |

Tolerance 1/min : +- 4 rack travel mm : 4.00 Rated speed rpm : 1345 rack travel mm : 12.25 1389 Rated speed rpm : Tolerance 1/min : + 4 rack travel mm : 4.00 4.00 LOW IDLE Setting point w/out bumper spring Rated speed rack travel mm : 0.70 + 0.40 Rated speed rpm : 350 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: TORQUE CONTROL Rated speed rpm : 1300 rack travel mm : 13.25
Tolerance mm : + 0.05 Rated speed rpm : 600 rack travel mm : 13.25 rack travel mm : 13.25 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 500 700 Pressure hPa : rack travel mm : 13.25 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa Tolerance mm : +- 0.05 MEASUREMENT Rated speed rpm : 500

Pressure hPa : 400 2.55 rack travel mm : Tolerance max : + 0.10: 200 Pressure hPa rack travel mm : 0.85
Tolerance mm : + 0.10 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 700 hPa Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : - 1.5 Check tolerance cm3/1000s. ; +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 7.0 Aneroid pressure hPa Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 37.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : **←** 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 strokes : +- 5.0Check tolerance cm3/1000s. : +- 8.0 LOW IDLE Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 12.0

Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.12.97 Edition : ISO 4113 Test oil

Combination No. : 0 403 474 019

Injection pump

Pump designation: PES4MW100/720RS1151

EP type number : 0 413 404 104

Governor

Governer design. : RSV350...1200MW0A346

: -3

: 0 420 085 179 Governer no.

Cust. part No. :

Customer-spec. information : MB-NFZ Customer Motor : OM 364 A Power KW : 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 har : + 1.5 Tolerance bar

: 1 680 750 089 Test lines

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 3.75 Tolerance mm

Check

tolerance mm : **←** 0.10

Rack travel in mm: 10.50 Tolerance mm : **←** 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 11.55

Tolerance mm : $\leftarrow 0.05$

Del. quantity cm3/1000 strokes : 88.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : + 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

E03

| | |
|--|--|
| Check tolerance cm3/1000s. : 6.0 | CONTROL LEVER |
| Rated speed rpm : 350 | control lever position degree : 108.0 tolerance degree : + 4.0 |
| Rack travel in ma: 6.40 Tolerance ma : + 0.40 | RATED SPEED |
| Del. quantity cm3/1000 strokes : 12.0 | rack travel mm : 1.00 Tolerance mm : + 0.70 |
| Tolerance + 2.0 + | Rated speed rpm : 1450 |
| Check tolerance + cm3/1000s. : + 4.5 + Spreed | rack travel mm : 4.00 Rated speed rpm : 1340 Tolerance 1/min : +- 15 |
| Tolerance + cm3/1000 strokes : 3.5 + Check tolerance + | rack travel mm : 10.50 Rated speed rpm : 1248 |
| cm3/1000s. : 5.5 | Tolerance 1/min : +- 8 |
| (B) SETTING OF INJECTION PUMP | ASSEMBLY GOVERNOR SETTING |
| WITH GOVERNOR + | Rated speed rpm : 1240 rack travel mm : 10.50 |
| GUIDE SLEEVE POSITION | Rated speed rpm : 1289 Tolerance 1/min : + 4 rack travel mm : 4.00 |
| control lever position degree : -3 Rated speed rpm : 800 | Rated speed rpm : 1241 rack travel mm : 10.50 |
| Rack travel in mm: 0.65 Tolerance mm: :+ 0.35 | Rated speed rpm : 1290 Tolerance 1/min : ← 4 rack travel mm : 4.00 |
| governor spring pre-tension + | 2012 |
| click setting x : 5.75 | Rated speed rpm : 1242 rack travel mm : 10.50 |
| FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1200 Aneroid pressure | Rated speed rpm : 1291 Tolerance 1/min : + 4 rack travel mm : 4.00 |
| hPa : 700 + Del. quantity + | Rated speed rpm : 1243 |
| cm3/1000 strokes : 88.0 + Tolerance + Tolerance | rack travel mm : 10.50 |
| cm3/1000 strokes : + 1.0 + Check tolerance cm3/1000s. : + 3.0 + Spreed | Rated speed rpm : 1292 Tolerance 1/min : + 4 rack travel mm : 4.00 |
| Tolerance + 3.5 Check tolerance + 5.5 | Rated speed rpm : 1244 rack travel mm : 10.50 |
| cm3/1000s. : 6.0 | Rated speed rpm : 1293 |

Tolerance 1/min 4.00 rack travel mm Rated speed rpm 1245 rack travel and 10.50 1294 Rated speed rpm Tolerance 1/min : +rack travel mm 4.00 LOW IDLE Setting point w/out bumper spring Rated speed rpm 100 : CRT mm min. : > 19.00 Testing: Rated speed rpm 350 rack travel mm 6.40 : **←** 0.40 Tolerance mm TORQUE CONTROL 1200 Rated speed rpm 11.55 rack travel mm Tolerance mm : +- 0.05 Rated speed rpm 600 rack travel mm 12.40 Tolerance mm : + - 0.101000 Rated speed rpm : 12.00 rack travel mm Tolerance m : + - 0.10ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm 700 Pressure hPa rack travel mm 12.40 : + 0.10Tolerance mm 500 Rated speed rpm : Pressure hPa : + 0.05Tolerance mm MEASUREMENT

500

Pressure hPa 375 1.70 rack travel mm Tolerance mm : + 0.10200 Pressure hPa rack travel mm 0.50 : + 0.10Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure 700 Rated speed rpm 600 Del. quantity cm3/1000 strokes : 87.0 Tolerance cm3/1000 strokes : + 1.5Check tolerance : +cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s.7.0 rack travel mm 12.00 Tolerance mm : + 0.10Aneroid pressure hPa 500 Rated speed rom Del. quantity cm3/1000 strokes : 48.0 Tolerance cm3/1000 strokes : +--1.0 Check tolerance cm3/1000s. 3.0 STARTING FUEL DELIVERY Rated speed rpm 100 Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : +-5.0 Check tolerance cm3/1000s.8.0 : +-

Rated speed rpm :

| Rated speed rpm | : 350 |
|--|--------------------|
| Rack travel in mma Tolerance mmm Del. quantity | : 6.40 : + 0.40 |
| | : 12.0 |
| cm3/1000 strokes Check tolerance | : + 2.0 |
| cm3/1000s. Spreed Tolerance | : + 4.5 |
| cm3/1000 strokes Check tolerance | : 3.5 |
| cm3/1000s. | : 5.5 |

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 474 021D

Injection pump

Pump designation : PES4MW100/720RS1181

EP type number : 0 413 404 107

Governor

Governer design. : RSV400...1000MW1A348

6overner no. : 0 420 085 183

Cust. part No. :

Customer spec. information
Customer : LIEBHERR
Motor : D914T

Power KW : 106.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40 Tolerance °C : ← 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter: 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.05
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.65 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 137.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 7.5

| Rated speed rpm : 400 | control lever position degree : 103.0 tolerance degree : + 4.0 |
|---|--|
| • | + |
| Rack travel in mm: 5.25 | + RATED SPEED |
| Tolerance non : + 0.10 | rack travel mm : 9.65 |
| Del. quantity cm3/1000 strokes : 22.0 | + Rated speed rpm : 1025 |
| Tolerance | † Tolerance 1/min : +- 5 |
| cm3/1000 strokes : + 2.0 | rack travel mm : 4.00 |
| Check tolerance | Rated speed rpm : 1065 |
| cm3/1000s. : + 4.5 | + Tolerance 1/min : + 10 |
| Spreed | + |
| Tolerance | + rack travel mm : 1.00 |
| cm3/1000 strokes : 3.5 | \uparrow Tolerance mm : +- 0.70 |
| Check tolerance | + Rated speed rpm : 1175 |
| cm3/1000s. : 5.0 | † |
| | rack travel mm : 4.00 |
| (B) SETTING OF INJECTION PUMP | Rated speed rpm : 1065 + Tolerance 1/min : + 10 |
| WITH GOVERNOR | † Tolerance 1/min : +- 10 |
| MIIII GOAEVIANK | - |
| GUIDE SLEEVE POSITION | LOW IDLE |
| | + |
| control lever | + control lever |
| position degree : - 3 Rated speed rpm : 800 | position degree : 76.0 |
| kared speed rom : add | tolerance degree : +- 4.0 |
| Rack travel in mm : 0.65 Tolerance mm : +- 0.35 | Setting point w/out bumper sp |
| | + Rated speed rpm : 400 |
| governor spring | rack travel ma : 6.25 |
| pre-tension (00) | Tolerance mms : + 0.10 |
| click setting x : 4.00 | Rated speed rpm : 100 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | + CRT mm min. : > 19.00 |
| D. And D. Add and Appear | † |
| Rated speed rpm : 1000 | † Testing: |
| Aneroid pressure hPa : 1250 | Rated speed rpm : 400 |
| Del. quantity | rack travel mm : 5.25 |
| cm3/1000 strokes : 137.5 | + Tolerance mm : + 0.10 |
| Tolerance | + |
| cm3/1000 strokes : +- 1.0 | + |
| Check tolerance | + TORQUE CONTROL |
| cm3/1000s. : +- 4.0 | Rated speed rpm : 1000 |
| Spreed | + rack travel mm : 10.65 |
| Tolerance | † Tolerance mm : + 0.05 |
| cm3/1000 strokes : 4.0 Check tolerance | Rated speed rpm : 500 |
| cm3/1000s. : 7.5 | Rated speed rpm : 500 rack travel mm : 10.65 |
| (HO) 10000 . (1.) | Tolerance mm : + 0.05 |
| | + |
| | + Rated speed rpm : 700 |
| | ideca speed (pii . 100 |
| CONTROL LEVER | rack travel mm : 10.65 |

| control lever position degree tolerance degree | : 103.0 : + 4.0 |
|---|--------------------------------|
| RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min | : 9.65 : 1025 : ← 5 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 4.00 : 1065 : +- 10 |
| rack travel mm Tolerance mm Rated speed rpm | : 1.00 : + 0.70 : 1175 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 4.00 : 1065 : + 10 |
| LON IDLE | |
| control lever position degree tolerance degree | : 76.0 : +- 4.0 |
| Setting point w/ou | ut bumper spring |
| Rated speed rpm rack travel mma Tolerance mms | : 400 : 6.25 : + 0.10 |
| Rated speed rpm | : 100 |
| CRT mm min. | : > 19.00 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 400 : 5.25 : ← 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1000 : 10.65 : +- 0.05 |
| Rated speed rpm | |

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| Tolerance | | | |
|---|--|---------------------------------|--|
| cm3/1000 strokes | : +- | 2.0 | |
| Check tolerance cm3/1000S. | : +- | 5.0 | |
| Aneroid pressure | <u> </u> | | |
| Rated speed rpm | : ! | 500 | |
| Del. quantity cm3/1000 strokes | : | 127.5 | |
| Tolerance cm3/1000 strokes | : +- | 1.0 | |
| Check tolerance cm3/1000s. | • 4 | 4.0 | |
| STARTING FUEL DEL | IVERY | | |
| STARTING FUEL DEL ESS test: With 2 rack must reach control lever se | 4 V sol start p | | |
| ESS test: With 2 rack must reach control lever se | 4 V solutions that yellow the second that yel | position | |
| ESS test: With 2 rack must reach control lever se Rated speed rpm rack travel mm | 4 V solutions that the start part of the start p | position | |
| ESS test: With 2 rack must reach control lever se Rated speed rpm rack travel mm Tolerance mm Del. quantity | 4 V solutions. | osition 100 20.00 1.00 | |
| ESS test: With 2 rack must reach control lever se Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance | 4 V solutions. | 000 20.00 1.00 | |
| ESS test: With 2 rack must reach control lever se Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | 4 V solutions. | osition 100 20.00 1.00 | |
| rack must reach | 4 V solutions. | 000 20.00 1.00 | |

| LOW IDLE | | |
|--|-----------|--------------|
| Rated speed rpm | : | 400 |
| Rack travel in mm Tolerance mm Del. quantity | : : +- | 5.25 0.10 |
| cm3/1000 strokes Tolerance | : | 22.0 |
| cm3/1000 strokes Check tolerance | : +- | 2.0 |
| cm3/1000s. Spreed Tolerance | : +- | 4.5 |
| cm3/1000 strokes Check tolerance | : | 3.5 |
| cm3/1000s. | : | 5 .0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 476 027

Injection pump

Pump designation : PES6MW100/720RS1144

EP type number : 0 413 406 138

Governor

Governer design. : RSV350...1300MWOA316

: -6

Governer no. : 0 420 085 098

Cust. part No. :

Customer—spec. information Customer : MB-NFZ Motor : OM366A Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40
Tolerance *C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

- 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.50

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.75
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 73.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : \leftarrow 3.0

| | |
|---|---|
| cm3/1000 strokes : 3.5 | CONTROL LEVER |
| Check tolerance cm3/1000s. : 6.0 | + + control lever |
| · 0.0 | • |
| | <pre>position degree : 110.0 tolerance degree : +- 4.0</pre> |
| | 1 toterance degree : +- 4.0 |
| Rated speed rpm : 350 Del. quantity | RATED SPEED |
| cm3/1000 strokes : 10.0 | rack travel mm : 1.00 |
| Tolerance | Tolerance mm : + 0.70 |
| cm3/1000 strokes : +- 2.0 | Rated speed rpm : 1450 |
| Check tolerance | + |
| cm3/1000s. : +- 4.5 | + rack travel mm : 4.00 |
| Spreed | Rated speed rpm : 1415 |
| Tolerance | + Tolerance 1/min : +- 15 |
| cm3/1000 strokes : 3.5 | + |
| Check tolerance | + rack travel mm : 9.70 |
| cm3/1000s. : 5.5 | + Rated speed rpm : 1353 |
| | † Tolerance 1/min : + 8 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | ASSEMBLY GOVERNOR SETTING |
| | Rated speed rpm : 1340 |
| | drack travel mm : 9.70 |
| | + |
| GUIDE SLEEVE POSITION | + Rated speed rpm : 1384 |
| | + Tolerance 1/min : +- 4 |
| | + rack travel mm : 4.00 |
| control lever | ļ |
| position degree : - 3 | + |
| Rated speed rpm : 800 | Rated speed rpm : 1341 + rack travel mm : 9.70 |
| | † rack travel mm : 9.70 |
| Rack travel in mm: 0.65 | ⊥ |
| Tolonomos mm + 1 = 0.75 | T |
| Tolerance mm : + 0.35 | Rated speed rpm : 1385 |
| | Tolerance 1/min : +- 4 |
| governor spring | |
| governor spring pre-tension | Tolerance 1/min : +- 4 |
| governor spring | Tolerance 1/min : + 4 rack travel mm : 4.00 |
| governor spring pre-tension | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 |
| governor spring pre-tension click setting x : 4.00 | Tolerance 1/min : + 4 rack travel mm : 4.00 |
| governor spring pre-tension | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.0 | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1343 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.0 Tolerance | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.0 Tolerance cm3/1000 strokes : +- 1.0 | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1343 rack travel mm : 9.70 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1343 rack travel mm : 9.70 Rated speed rpm : 1387 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1343 rack travel mm : 9.70 Rated speed rpm : 1387 Tolerance 1/min : + 4 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1343 rack travel mm : 9.70 Rated speed rpm : 1387 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1343 rack travel mm : 9.70 Rated speed rpm : 1387 Tolerance 1/min : + 4 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1343 rack travel mm : 9.70 Rated speed rpm : 1387 Tolerance 1/min : + 4 rack travel mm : 4.00 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1343 rack travel mm : 9.70 Rated speed rpm : 1387 Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1387 Tolerance 1/min : + 4 rack travel mm : 4.00 |
| governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 | Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1342 rack travel mm : 9.70 Rated speed rpm : 1386 Tolerance 1/min : + 4 rack travel mm : 4.00 Rated speed rpm : 1343 rack travel mm : 9.70 Rated speed rpm : 1387 Tolerance 1/min : + 4 rack travel mm : 4.00 |

| Tolerance 1/min | | • | |
|---|---|---|-----|
| | : 4 | + Tolerance | |
| rack travel 🖚 | | - cm3/1000 strokes : | |
| | | + Check tolerance | |
| | | + cm3/1000s. | |
| ated speed rom | : 1345 | | • |
| ted speed rpm ck travel mm | 9.70 | 1 | _ |
| ZOR CI GVCC IZI | . / | Aneroid pressure | |
| ated speed rpm | • 1389 | + hPa : | |
| olerance 1/min | | Rated speed rpm | • |
| ick travel min | | rack travel mm | |
| CI GACC MIN | . 4.00 | Tolerance mm | |
| | | — Del. quantity | • |
| W IDLE | | cm3/1000 strokes : | |
| OM TOEE | | Tolerance | • |
| Setting point w/c | ut bumper spring | cm3/1000 strokes : | |
| eccing point wit | at bumper spring | Check tolerance | |
| Ratted speed rpm | . 350 | - cm3/1000s. : | |
| ick travel m | , 330 , 7.70 | T (m5/1000s. | • |
| rack travel mm Tolerance mm | · + 0 30 | I | |
| office ice imp | 0.30 | | _ |
| ated speed rpm | : 100 | STARTING FUEL DELIN | /F |
| | | + Office of the | ٠ ـ |
| RT mm min. | : > 19.00 | | : |
| | | + Del. quantity | |
| esting: | | + cm3/1000 strokes : | • |
| | | + Toterance | |
| rack travel mm | | + cm3/1000 strokes : | : |
| Rated speed rpm | | + Check tolerance | |
| | : +- 30 | | : |
| ierance 1/min | ; | + cm3/1000s. : | |
| folerance 1/min | ; 1- 30 | † cm5/1000\$. | |
| | . — 50 | | |
| ORQUE CONTROL | · · · · · · · · · · · · · · · · · · · | | |
| ORQUE CONTROL atted speed rpm | : 1300 | | |
| DRQUE CONTROL arted speed rpm ack travel mon | : 1300 : 10.75 | Cm3/1000s. | |
| ORQUE CONTROL lated speed rpm | : 1300 : 10.75 | LOW IDLE | |
| DRQUE CONTROL atted speed rpm ack travel mm olerance mm | : 1300 : 10.75 : + 0.05 | LOW IDLE Rated speed rpm : | |
| ORQUE CONTROL ated speed rpm ack travel mm olerance mm ated speed rpm | : 1300 : 10.75 : + 0.05 : 700 | LOW IDLE Rated speed rpm : Del. quantity | |
| TORQUE CONTROL Lated speed rpm Lack travel man Lolerance mm Lated speed rpm Lack travel mm | : 1300 : 10.75 : ← 0.05 : 700 : 12.35 | LOW IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : | |
| TORQUE CONTROL Lated speed rpm Lack travel man Lolerance mm Lated speed rpm Lack travel mm | : 1300 : 10.75 : ← 0.05 : 700 : 12.35 | LOW IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance | : |
| ORQUE CONTROL ated speed rpm ack travel mm olerance mm ated speed rpm ack travel mm olerance mm | : 1300 : 10.75 : ← 0.05 : 700 : 12.35 : ← 0.05 | LOW IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : | |
| ORQUE CONTROL ated speed rpm ack travel mm ated speed rpm ack travel mm olerance mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 | LOW IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance | : |
| ORQUE CONTROL ated speed rpm ack travel mm ated speed rpm ack travel mm olerance mm ated speed rpm ack travel mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 | LOW IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. | : |
| ORQUE CONTROL lated speed rpm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 | LOW IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. Spreed | : |
| ORQUE CONTROL atted speed rpm ack travel mm atted speed rpm ack travel mm oterance mm atted speed rpm ack travel mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 | LOW IDLE Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. Spreed Tolerance | |
| PRQUE CONTROL acted speed rpm ack travel mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1090s. Spreed Tolerance cm3/1000 strokes: | |
| RQUE CONTROL ted speed rpm ck travel mm ted speed rpm ck travel mm lerance mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance | |
| ORQUE CONTROL ated speed rpm colerance mm cated speed rpm cack travel mm colerance mm colerance mm colerance mm colerance mm colerance mm colerance mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1090s. Spreed Tolerance cm3/1000 strokes: | |
| TORQUE CONTROL Rated speed rpm rack travel mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance | |
| Tolerance 1/min TORQUE CONTROL Rated speed rpm Tolerance mm Rated speed rpm Tolerance mm Tolerance mm Tolerance mm Tolerance mm Tolerance mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance | |
| FORQUE CONTROL Rated speed rpm rack travel mm Rated speed rpm rack travel mm Folerance mm Rated speed rpm rack travel mm rack travel mm rack travel mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance | |
| FUEL DELIVERY CHA | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance | |
| FORQUE CONTROL Rated speed rpm rack travel mm Rated speed rpm rack travel mm Rated speed rpm Rated speed rpm rack travel mm Rated speed rpm rack travel mm Folerance mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance cm3/1000 strokes: | |
| TORQUE CONTROL Rated speed rpm rack travel mm Rated speed rpm rack travel mm rolerance mm Rated speed rpm rack travel mm rolerance mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance | |
| TORQUE CONTROL Rated speed rpm rack travel mm Rated speed rpm rack travel mm rolerance mm Rated speed rpm rack travel mm rolerance mm Rated speed rpm rack travel mm rolerance mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance cm3/1000 strokes: | |
| DRQUE CONTROL atted speed rpm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance cm3/1000 strokes: | |
| FUEL DELIVERY CHA | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance cm3/1000 strokes: | |
| TORQUE CONTROL Rated speed rpm rack travel mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance cm3/1000 strokes: | |
| ORQUE CONTROL ated speed rpm ack travel mm olerance mm ated speed rpm ack travel mm olerance mm ated speed rpm ack travel mm olerance mm uel Delivery Cha meroid pressure pa ated speed rpm el. quentity m3/1000 strokes olerance m3/1000 strokes heck tolerance | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance cm3/1000 strokes: | |
| ORQUE CONTROL ated speed rpm ack travel mm olerance mm ated speed rpm ack travel mm olerance mm ated speed rpm ack travel mm olerance mm uel Delivery Cha peroid pressure Pa ated speed rpm ated speed rpm ated speed rpm olerance mm | : 1300 : 10.75 : + 0.05 : 700 : 12.35 : + 0.05 : 825 : 12.00 : + 0.10 | LOW IDLE Rated speed rpm: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes: Check tolerance cm3/1000 strokes: | |

5.0 7.0 825 12.00 + 0.10 74.0 + 1.5 **←** 4.0 ERY 100 83.0 **←** 5.0 **+-** 8.0 350 10.0 **←** 2.0 +- 4.5 3.5 5.5

cation sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.12.97 : ISO 4113

Combination No. : 0 403 476 055

Injection pump

Pump designation : PES6MW100/720RS1144

EP type number : 0 413 406 138

Governor

Governer design. : RSV350...1200MW0A316

: -8

Governer no.

: 0 420 085 097

Cust. part No. :

Customer-spec. information

Customer : MB-NFZ Motor

: 0M366A

Power KW

: 92.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

: **←** 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

har

173.5

Tolerance bar

: **←** 1.5

Test lines

: 1 680 750 015

Outside diameter : 6.0

E14

x inside diameter: 3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

31.0 Test pressure bar :

Tolerance bar $: \leftarrow 1.0$

Prestroke mm

: +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

10.50 Rack travel in mm:

Tolerance mm : **←** 1.50

Firing order : 1-5-3-6-2-

3.75

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 9.85

: **←** 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 63.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: + 3.0

| Tolerance : 3.5 | Check tolerance cm3/1000s. : 6.0 |
|---|--|
| Check tolerance : 6.0 | <u> </u> |
| | CONTROL LEVER |
| Rated speed rpm : 350 | control lever position degree : 102.0 tolerance degree : + 4.0 |
| Rack travel in mm : 6.60 Tolerance mm : +- 0.30 | + |
| Del. quantity | + RATED SPEED |
| cm3/1000 strokes : 10.0 Tolerance | rack travel mm : 1.00 Tolerance mm : + 0.70 |
| cm3/1000 strokes : + 2.0 Check tolerance | Rated speed rpm : 1450 |
| cm3/1000s. : +- 4.5 | rack travel mm : 4.00 |
| Spreed Tolerance | + Rated speed rpm : 1315 + Tolerance 1/min : +- 15 |
| cm3/1000 strokes : 3.5 | + |
| Check tolerance : 5.5 | rack travel mm : 8.80 Rated speed rpm : 1253 |
| | Tolerance 1/min : + 8 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | ASSEMBLY GOVERNOR SETTING |
| | + Rated speed rpm : 1235 + rack travel mm : 8.80 |
| GUIDE SLEEVE POSITION | + Rated speed rpm : 1274 |
| | Tolerance 1/min : +- 4 rack travel mm : 4.00 |
| control lever | T (dix travet may . 4.00) |
| position degree : - 3 Rated speed rpm : 800 | + Rated speed rpm : 1236 |
| · | rack travel mm : 8.80 |
| Rack travel in mm : 0.65 Tolerance mm : ← 0.35 | Rated speed rpm : 1275 |
| | + Tolerance 1/min : +- 4 |
| governor spring pre-tension | + rack travel mm : 4.00 |
| click setting x : 4.00 | + Rated speed rpm : 1237 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | rack travel mm : 8.80 |
| | Rated speed rpm : 1276 |
| Rated speed rpm : 1200 Aneroid pressure | Tolerance 1/min : + 4 rack travel mm : 4.00 |
| hPa : - Del. quantity | TIGON CIGYEC HAW . 4.00 |
| cm3/1000 strokes : 63.0 | Rated speed rpm : 1238 |
| Tolerance cm3/1000 strokes : +- 1.0 | + rack travel mm : 8.80 |
| Check tolerance | Rated speed rpm : 1277 |
| cm3/1000s. : + 3.0 Spreed | Tolerance 1/min : + 4 rack travel mm : 4.00 |
| Tolerance cm3/1000 strokes : 3.5 | ‡ |
| | Rated speed rpm : 1239 |

| rack travel mm | : 8.80 |
|--|-------------------------------|
| Rated speed rpm Tolerance 1/min rack travel mm | : + 1278 : + 4 : 4.00 |
| Rated speed rpm rack travel mm | : 1240 : 8.80 |
| Rated speed rpm Tolerance 1/min rack travel mm | : 1279 : + 4 : 4.00 |
| LOW IDLE | |
| Setting point w/o | out bumper spring |
| Rated speed rpm | : 100 |
| CRT mm main. | : > 19.00 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 350 : 6.60 : +- 0.30 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 2.00 : 445 : ← 30 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1200 : 9.85 : ← 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 800 : 10.75 : +- 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 950 : 10.20 : ← 0.10 |
| FUEL DELIVERY CHA | ARACTERISTICS |

Aneroid pressure
hPa : Rated speed rpm : 800
Del. quantity
cm3/1000 strokes : 62.0
Tolerance
cm3/1000 strokes : +- 1.5

| Check tolerance cm3/1000s. Spreed | : +- | 4.0 |
|--|------|---------------|
| Tolerance cm3/1000 strokes Check tolerance | : | 5.0 |
| cm3/1000s. | : | 7.0 |
| rack travel mm Tolerance mm | : +- | 10.20 0.10 |

STARTING FUEL DELIVERY

| Rated speed rpm Del. quantity | : | 100 |
|-------------------------------------|-----|-------|
| cm3/1000 strokes Tolerance | : | 83.0 |
| cm3/1000 strokes Check tolerance | : + | - 5.0 |
| cm3/1000s. | : + | - 8.0 |

LOW IDLE

| Rated speed rpm | : | | 350 |
|-------------------------------|---|----|------|
| Rack travel in mm | : | | 6.60 |
| Tolerance mm Del. quantity | : | + | 0.30 |
| cm3/1000 strokes | : | | 10.0 |
| Tolerance cm3/1000 strokes | : | +- | 2.0 |
| Check tolerance cm3/1000s. | • | + | 4.5 |
| Spreed | • | | *** |
| Tolerance cm3/1000 strokes | : | | 3.5 |
| Check tolerance cm3/1000s. | : | | 5.5 |
| CH37 70003. | • | | ر. ر |

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 476 056

Injection pump

Pump designation : PES6MW100/720RS1144

EP type number : 0 413 406 138

Governor

Governer design. : RSV350...1200MW0A316

: -5

Governer no. : 0 420 085 090

Cust. part No. :

Customer—spec. information Customer : MB-NFZ Motor : OM366A Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : ← 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter: 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50
Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.25 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 70.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

| Tolerance cm3/1000 strokes : 3.5 | Check tolerance cm3/1000s. : 6.0 |
|---|--|
| Check tolerance cm3/1000s. : 6.0 | |
| ‡ | CONTROL LEVER |
| Rated speed rpm : 350 | control lever position degree : 102.0 tolerance degree : +- 4.0 |
| Rack travel in mm: 6.40 Tolerance mm: + 0.30 | RATED SPEED |
| Del. quantity cm3/1000 strokes : 10.0 Tolerance | rack travel mm : 1.00 Tolerance mm : +- 0.70 |
| cm3/1000 strokes : + 2.0 Check tolerance | Rated speed rpm : 1450 |
| cm3/1000s. : + 4.5 Spreed | rack travel mm : 4.00 Rated speed rpm : 1315 |
| Tolerance + cm3/1000 strokes : 3.5 + Check tolerance + - | Tolerance 1/min : + 15 |
| cm3/1000s. : 5.0 | rack travel mma : 9.20 Rated speed rpm : 1248 Tolerance 1/min : +- 8 |
| (B) SETTING OF INJECTION PUMP | ASSEMBLY GOVERNOR SETTING |
| WITH GOVERNOR | Rated speed rpm : 1240 rack travel mm : 9.20 |
| | |
| GUIDE SLEEVE POSITION | Reted speed rpm : 1284 Tolerance 1/min : + 4 |
| control lever position degree : -3 | rack travel mma : 4.00 |
| Rated speed rpm : 800 | Rated speed rpm : 1241 rack travel mm : 9.20 |
| Rack travel in mm : 0.65 Tolerance mm : + 0.35 | Rated speed rpm : 1285 |
| + | Tolerance 1/min : +- 4 |
| governor spring pre-tension | rack travel mm : 4.00 |
| click setting x : 4.00 | Rated speed rpm : 1242 rack travel mm : 9.20 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | |
| Rated speed rpm : 1200 | Rated speed rpm : 1286 Tolerance 1/min : +- 4 |
| Aneroid pressure hPa : - | rack travel mma : 4.00 |
| Del. quantity + cm3/1000 strokes : 70.0 + Tolerance + Tolerance | Rated speed rpm : 1243 rack travel mm : 9.20 |
| cm3/1000 strokes : + 1.0 Check tolerance | Rated speed rpm : 1287 |
| cm3/1000s. : + 3.0 + spreed | Tolerance 1/min : + 4 rack travel mm : 4.00 |
| Tolerance cm3/1000 strokes : 3.5 | |
| + | Rated speed rpm : 1244 |

| rack travel mm | : 9.20 | † Del. quantity |
|--|--------------------|---------------------------------------|
| | | + cm3/1000 strokes |
| Rated speed rpm Tolerance 1/min rack travel mm | : 1288 | † Tolerance |
| Tolerance 1/min | : + 4 | + cm3/1000 strokes |
| ack travel mm | : 4.00 | + Check tolerance |
| | | + cm3/1000s. |
| | | + Spreed |
| lated speed rpm | : 1245 | + Tolerance |
| travel mm | : 9.20 | + cm3/1000 strokes |
| | | + Check tolerance |
| ed speed rpm | : 1289 | - cm3/1000s. |
| lerance 1/min | : + 4 | 1 |
| rted speed rpm Dierance 1/min Dick travel mm | : 4.00 | 1 |
| | | rack travel mm |
| | | + Tolerance mm |
| OW IDLE | | † |
| Setting point w/o | ut bumper spring | |
| | - | + STARTING FUEL DEL |
| Rated speed rpm | : 100 | + |
| | | + Rated speed rpm |
| RT mm min. | : > 19.00 | + rack travel mm |
| | | † Tolerance mm |
| esting: | | + Del. quantity |
| _ | | + cm3/1000 strokes |
| ated speed rpm | : 350 | † Tolerance |
| rack travel mm Tolerance mm | : 6.40 | + cm3/1000 strokes |
| lerance mm | : ← 0.30 | + Check tolerance |
| | | + cm3/1000s. |
| ack travel mm | : 2.00 | + |
| ted speed rpm | : 445 | + |
| erance 1/min | : ← 30 | + |
| | | I OU TNE |
| ORQUE CONTROL | | + LOW IDLE |
| Rated speed rpm | : 1200 | + Rated speed rpm |
| ack travel man | : 10.25 | +tea opeca i piii |
| ack travel mm olerance mm | · + 0.05 | Rack travel in mm |
| さくしょ はいと 特別 | 0.05 | Tolerance mm |
| ted speed me | : 800 | 1 |
| rted speed rpm | : 11.15 | + Del. quantity + cm3/1000 strokes |
| ack travel mm | : + 0.05 | + Tolerance |
| olerance mm | . 0.03 | + cm3/1000 strokes |
| loted consul | . 000 | |
| nted speed rpm nck travel mm | : 900 : 11.10 | + Check tolerance |
| | ; II.IU | + cm3/1000s. |
| olerance mm | : ← 0.10 | + Spreed |
| | . 1050 | + Tolerance |
| Rated speed rpm | : 1050 | + cm3/1000 strokes |
| ack travel mm | | + Check tolerance |
| olerance mm | : +- 0.10 | t cm3/1000s. |
| | | |
| FUEL DELIVERY CHA | RACTERISTICS | |
| | | + End of test speci |
| neroid pressure | | ‡ |
| hDa | • - | 1 |

: + 1.5 : **←** 4.0 : 5.0 : 7.0 : 11.10 : + 0.10 LIVERY : 100 : 20.00 : + 1.00 : 83.0 : **←** 5.0 : **←** 8.0 : 350 m : 6.40 : ← 0.30 : 10.0 : +- 2.0 : +- 4.5 3.5 : 5.0

: 70.0

ification sheet

Rated speed rpm : 800

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 476 066

Injection pump

Pump designation : PES6MW100/720RS1130

EP type number : 0 413 406 122

Governor

Soverner design. : RSV350...1300MW0A318

: -5

Governer no. : 0 420 085 100

Cust. part No. :

Customer—spec. information Customer : MB-NFZ Motor : OM 366 A Power KW : 130.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

E20

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05
Check

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50
Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1280

Rack travel in mm: 11.05
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 83.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

| Tolerance cm3/1000 strokes : 3.5 Check tolerance | Check tolerance cm3/1000s. : 6.0 |
|--|--|
| cm3/1000s. : 6.0 | CONTROL LEVER |
| Rated speed rpm : 350 | control lever position degree : 109.0 tolerance degree : +- 4.0 |
| Rack travel in mm : 8.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 11.0 Tolerance | RATED SPEED rack travel mm : 10.00 Rated speed rpm : 1335 Tolerance 1/min : +- 5 |
| cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance | rack travel mma : 4.00 Rated speed rpm : 1415 Tolerance 1/min : + 15 |
| cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5 | rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1560 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | LOW IDLE |
| GUIDE SLEEVE POSITION | control lever position degree : 79.0 tolerance degree : +- 4.0 |
| control lever position degree : -3 Rated speed rpm : 800 | Setting point w/out bumper spring |
| Rack travel in mm: 0.65 Tolerance mm: : + 0.35 | Rated speed rpm : 100 CRT mm min. : > 19.00 |
| governor spring pre-tension | Testing: |
| click setting x : 4.00 | Rated speed rpm : 350 rack travel mm : 8.00 Tolerance mm : +- 0.10 |
| FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1280 | rack travel mma : 2.00 Rated speed rpm : 500 |
| Aneroid pressure + + + + + + + + + + + + + + + + + + + | Tolerance 1/min : +- 30 |
| Del. quantity cm3/1000 strokes : 83.0 Tolerance | TORQUE CONTROL Rated speed rpm : 1280 |
| cm3/1000 strokes : + 1.0 | rack travel mm : 11.05 Tolerance mm : + 0.05 |
| Spreed Tolerance cm3/1000 strokes : 3.5 | Rated speed rpm : 750 rack travel mm : 11.05 Tolerance mm : + 0.10 |

FUEL DELIVERY CHARACTERISTICS

| Aner | bio | pressure |
|------|-----|----------|
| | | |

hPa 750 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 71.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 7.0

STARTING FUEL DELIVERY

100 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 83.C

Tolerance

cm3/1000 strokes : \leftarrow 5.0

Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 8.00 Toterance rame : + 0.10

Del. quantity cm3/1000 strokes : 11.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 476 067

Injection pump

Pump designation : PES6MW100/720RS1131 EP type number : 0 413 406 123

Governor

Governer design. : RSV350...1300PM0A2 Governer no. : 0 420 085 109

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : OM 366 LA Motor Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm 3.75 : +- 0.05 Tolerance mm

Check

tolerance ma : + 0.10

Rack travel in mm: 10.50 : **←** 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-69-129-189-249 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 12.65 Tolerance mm: $\leftarrow 0.05$

Del. quantity

cm3/1000 strokes : 101.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : **←** 3.0

| Spreed | - Tolerance - cm3/1000 strokes : 3.5 |
|---|---|
| Tolerance | - Check tolerance |
| cm3/1000 strokes : 3.5 | - cm3/1000s. : 6.0 |
| Check tolerance cm3/1000s. : 6.0 | |
| | - CONTROL LEVER |
| Rated speed rpm : 350 | - control lever - position degree : 98.0 - tolerance degree : +- 4.0 |
| Rack travel in mm: 6.55 Tolerance mm: +- 0.35 | - RATED SPEED |
| Del. quantity | |
| cm3/1000 strokes : 11.0 - Tolerance | - rack travel mm : 1.00 - Tolerance mm : +- 0.70 |
| cm3/1000 strokes : + 2.0 - Check tolerance | - Rated speed rpm : 1600 |
| cm3/1000s. : ← 4.5 Spreed | - rack travel mm : 4.00 - Rated speed rpm : 1435 |
| Tolerance | Tolerance 1/min : + 15 |
| Check tolerance | rack travel mm : 11.60 |
| cm3/1000s. : 5.5 | - Rated speed rpm : 1343 - Tolerance 1/min : +- 8 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | - ASSEMBLY GOVERNOR SETTING |
| | Rated speed rpm : 1340 - rack travel num : 11.60 |
| GUIDE SLEEVE POSITION | - Rated speed rpm : 1391 |
| <u>.</u> | Tolerance 1/min : +- 4 - rack travel 福 : 4.00 |
| control lever position degree : - 3 | <u>-</u> - |
| Rated speed rpm : 800 | - Rated speed rpm : 1341 - rack travel mm : 11.60 |
| Rack travel in mm: 0.65 | |
| Tolerance mm : ← 0.35 | - Rated speed rpm : 1392 - Tolerance 1/min : +- 4 |
| governor spring pre-tension | - rack travel mm : 4.00 |
| click setting x : 5.75 | - Rated speed rpm : 1342 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | - rack travel mm : 11.60 |
| Rated speed rpm : 1300 | - Rated speed rpm : 1393 - Tolerance 1/min : +- 4 |
| Aneroid pressure | rack travel mm : 4.00 |
| hPa : 1000 - Del. quantity | - - |
| cm3/1000 strokes : 101.0 | - Rated speed rpm : 1343 - rack travel mm : 11.60 |
| cm3/1000 strokes : + 1.0 Check tolerance | <u>.</u> |
| | - Wated chaed than . 14U/. |
| cm3/1000s. : + 3.0 Spreed | - Rated speed rpm : 1394 - Tolerance 1/min : +- 4 - rack travel mm : 4.00 |

Rated speed rpm : 1344
rack travel mm : 11.60
Rated speed rpm : 1395

Rated speed rpm : 1395
Tolerance 1/min : + 4
rack travel mm : 4.00

Rated speed rpm : 1345 rack travel mm : 11.60

Rated speed rpm : 1396
Tolerance 1/min : +- 4
rack travel mm : 4.00

LOW IDLE

Setting point w/out buraper spring

Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 350
rack travel mm : 6.55
Tolerance mm : + 0.35

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1300 rack travel mm : 12.65 Tolerance mm : + G.05

Rated speed rpm : 600 rack travel mm : 12.65 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.65
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : Tolerance mm : + 0.05

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 400 rack travel mm : 1.40 Tolerance mm : + 0.10

Pressure hPa : 250 rack travel mm : 0.50 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure 1000 Rated speed rpm 600 Del. quantity 88.0 cm3/1000 strokes : Tolerance cm3/1900 strokes : \leftarrow 1.5 Check tolerance cm3/1000S. : +--4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. 7.0

Aneroid pressure ha

Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 54.0 Tolerance

cm3/1000 strokes : +-Check tolerance

cm3/1000s. : + 3.0

1.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity

cm3/1000 strokes : 88.0

Tolerance

cm3/1000 strokes : + 5.0

Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

| Rated speed rpm | : | | 350 |
|--|---|----|--------------|
| Rack travel in mm Tolerance mm Del. quantity | : | +- | 6.55 0.35 |
| cm3/1000 strokes | : | | 11.0 |
| Tolerance cm3/1000 strokes Check tolerance | : | + | 2.0 |
| cm3/1000s. Spreed | : | +- | 4.5 |
| Tolerance cm3/1000 strokes Check tolerance | : | | 3.5 |
| cm3/1000s. | : | | 5.5 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.12.97 : ISO 4113

Combination No. : 0 403 476 077

Injection pump

Pump designation : PES6MW100/720RS1144

EP type number : 0 413 406 138

Governor

Governer design. : RSV350...1300MH0A3

Governer no.

: 0 420 085 126

Cust. part No.

Customer-spec. information Customer : MB-NFZ : DM 366 LA Motor

Power KW

: 127.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C : +~ 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar

Test lines : 1 680 750 015

6.0 Outside diameter :

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

: 3.75 Prestroke mm Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 : **←** 1.50 Tolerance mm

: 1-5- 3- 6- 2-: 4 Firing order

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance *NW **: ←** 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 11.65 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 82.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : +- 3.0

| Tolerance | - Check tolerance |
|--|--|
| cm3/1000 strokes : 3.5 | cm3/1000s. : 6.0 |
| Check tolerance cm3/1000s. : 6.0 | |
| | CONTROL LEVER |
| - | control lever |
| Rated speed rpm : 350 - | position degree : 107.0 tolerance degree : + 4.0 |
| Rack travel in mm: 6.55 | |
| Tolerance mm : + 0.35 | RATED SPEED |
| Del. quantity - cm3/1000 strokes : 11.0 - | t - rack travel mm : 1.00 |
| Tolerance - | Tolerance mm : + 0.70 |
| cm3/1000 strokes : + 2.0 - Check tolerance - | Rated speed rpm : 1550 |
| cm3/1000s. : + 4.5 | rack travel mm : 4.00 |
| Spreed - | Rated speed rpm : 1445 |
| Tolerance | Tolerance 1/min : +- 15 |
| cm3/1000 strokes : 3.5 - Check tolerance - | t rack travel mm : 10.60 |
| cm3/1000s. : 5.0 | Pated speed rom : 13/3 |
| . 5.0 | Rated speed rpm : 1343 Tolerance 1/min : + 8 |
| - | |
| (B) SETTING OF INJECTION PUMP - WITH GOVERNOR - | ASSEMBLY GOVERNOR SETTING |
| • | Rated speed rpm : 1340 |
| • | rack travel mm : 10.60 |
| GUIDE SLEEVE POSITION - | † Rated speed rpm : 1401 |
| COLUMN CONTRACTOR CONT | Tolerance 1/min : + 4 |
| - | rack travel mm : 4.00 |
| control lever | + |
| position degree : - 3 | Potest around num 47/1 |
| Rated speed rpm : 800 - | + Rated speed rpm : 1341 - rack travel mm : 10.60 |
| Rack travel in mm : 0.65 | - Tack travet man . 10.00 |
| Tolerance mm : + 0.35 | Rated speed rpm : 1402 |
| • | Tolerance 1/min : + 4 |
| governor spring | rack travel mm : 4.00 |
| pre-tension - click setting x : 4.20 | |
| TOTAL COLUMN . TIES | Rated speed rpm : 1342 |
| | rack travel mm : 10.60 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | + |
| Detect around man . 1700 | Rated speed rpm : 1403 Tolerance 1/min : + 4 |
| Rated speed rpm : 1300 - Aneroid pressure - | Tolerance 1/min : + 4 rack travel mm : 4.00 |
| hPa : - | Tack cruyed may . 4.00 |
| Del. quantity - | |
| cm3/1000 strokes : 82.0 - | Rated speed rpm : 1343 rack travel mm : 10.60 |
| Tolerance - | rack travel mm : 10.60 |
| cm3/1000 strokes : + 1.0 - Check tolerance - | Rated speed rpm : 1404 |
| cm3/1000s. : + 3.0 | Tolerance 1/min : + 4 |
| Spreed - | rack travel mm : 4.00 |
| Tolerance - | |
| cm3/1000 strokes : 3.5 | Detect areast are 47// |
| | Rated speed rpm : 1344 |

rack travel am : 10.60 Rated speed rpm : 1405 Tolerance 1/min : +rack travel mm : 4.00 Rated speed rpm : 1345 rack travel mm : 10.60 Rated speed rpm : 1406
Tolerance 1/min : + 4 rack travel mm : 4.00 LOW IDLE Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. : > 19.00Testing: 350 Rated speed rpm : rack travel mm : 6.55
Tolerance mm : + 0.35 2.00 rack travel mm : Rated speed rpm : Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1300 rack travel mm : 11.65 Tolerance mm : + 0.05 Rated speed rpm : 900 rack travel mm : 11.95 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 77.5 Tolerance

Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 7.0 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 85.0 Tolerance cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0 LOW IDLE Rated speed rpm : 350 Rack travel in mm: 6.55 Tolerance mm : + 0.35 Del. quantity cm3/1000 strokes : 11.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.0

End of test specification sheet

cm3/1000 strokes : \leftarrow 1.5

: **←** 4.0

Check tolerance

cm3/1000s. Spreed

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 476 081

Injection pump

Pump designation : PES6MW100/720RS1196

: -1

EP type number : 0 413 406 219

Governor

Governer design. : RSV350...1050MW0A338

Governer no. : 0 420 085 138

Cust. part No. :

Customer—spec. information Customer : LIEBHERR Motor : D 916 T

Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter: 6.0

F02

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 3.45
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.25
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 151.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

| Tolerance cm3/1000 strokes : 3.5 Check tolerance | Check tolerance cm3/1000s. : 6.0 |
|--|--|
| cm3/1000s. : 6.0 | - CONTROL LEVER |
| | |
| Rated speed rpm : 350 | - control lever - position degree : 104.0 - tolerance degree : +- 4.0 |
| Rack travel in mm: 9.80 - Tolerance mm : + 0.20 | - RATED SPEED |
| Del. quantity | rack travel mm : 12.25 |
| cm3/1000 strokes : 73.0 - Tolerance | Rated speed rpm : 1075 Tolerance 1/min : +- 5 |
| cm3/1000 strokes : + 2.0 - Check tolerance | rack travel mm : 4.00 |
| cm3/1000s. : + 4.5 Spreed | Rated speed rpm : 1140 Tolerance 1/min : + 10 |
| Tolerance cm3/1000 strokes : 3.5 | - rack travel mm : 1.00 |
| Check tolerance | - Tolerance mm : + 0.70 - Rated speed rpm : 1250 |
| cm3/1000s. : 5.0 | |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | rack travel mm : 4.00 Rated speed rpm : 1190 Tolerance 1/min : +- 10 |
| GUIDE SLEEVE POSITION | |
| 1 | LOW IDLE |
| T control of the cont | - |
| control lever position degree : - 3 Rated speed rpm : 800 | control lever position degree : 76.0 |
| position degree : -3 Rated speed rpm : 800 | |
| position degree : - 3 | position degree : 76.0 |
| position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring | position degree : 76.0 tolerance degree : - 4.0 Setting point w/out bumper spring Rated speed rpm : 350 |
| position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 | position degree : 76.0 tolerance degree : 4.0 Setting point w/out bumper spring |
| position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension | position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20 |
| position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension | position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20 Rated speed rpm : 100 |
| position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 | position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 |
| position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure | position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20 Rated speed rpm : 100 |
| position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1300 Del. quantity | position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 |
| position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 151.0 Tolerance | position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: |
| position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 | position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 350 |
| position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 | position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350 rack travel mm : 9.80 Tolerance mm : + 0.20 TORQUE CONTROL |
| position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed | position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350 rack travel mm : 9.80 Tolerance mm : + 0.20 TORQUE CONTROL Rated speed rpm : 1050 |
| position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 | position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. :> 19.00 Testing: Rated speed rpm : 350 rack travel mm : 9.80 Tolerance mm : + 0.20 TORQUE CONTROL |

| Rated speed rpm | : 500 |
|-----------------|----------|
| rack travel mm | : 13.25 |
| Tolerance mm | : ← 0.10 |
| Rated speed rpm | : 800 |
| rack travel mm | : 13.25 |
| Tolerance mm | : ← 0.10 |
| Rated speed rpm | : 400 |
| rack travel mm | : 14.75 |
| Tolerance mm | : + 0.25 |

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 600 1300 Pressure hPa rack travel mm 13.25 : **←** 0.05 Tolerance mm

600 Rated speed rpm Pressure hPa : + 0.05Tolerance mm

MEASUREMENT

600 Rated speed rpm

500 Pressure hPa rack travel mm 1.05 : **←** 0.10 Tolerance mm

700 Pressure hPa 1.95 rack travel mm Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure 1300 hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 145.0 Tolerance cm3/1000 strokes : +-1.5 Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. 7.0

| Ameroid pressure hPa Rated speed rpm rack travel mm Tolerance mm | : 1300 : 800 : 13.25 : + 0.10 |
|--|--|
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : 150.5 : + 1.5 |
| Check tolerance cm3/1000s. | : + 4.0 |

| Aneroid pressure | | | |
|--------------------------------|---|----|-------|
| hPa | : | | _ |
| Rated speed rpm | : | | 600 |
| Del. quantity cm3/1000 strokes | • | | 113.5 |
| Tolerance | • | | 110.5 |
| cm3/1000 strokes | : | +- | 1.0 |
| Check tolerance cm3/1000s. | : | +- | 3.0 |
| | | | |

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated, rack must reach start position in max. control lever setting.

| 100 |
|--------|
| 20.25 |
| - 0.75 |
| |
| 132.0 |
| |
| - 5.0 |
| |
| - 8.0 |
| |

LOW IDLE

| Rated speed rpm | | 350 |
|--|-----------|--------------|
| Rack travel in mm Tolerance mm Del. quantity | : : +- | 9.80 0.20 |
| cm3/1000 strokes | : | 73.0 |
| Tolerance cm3/1000 strokes | : +- | 2.0 |
| Check tolerance cm3/1000s. Spreed | : +- | 4.5 |

Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. : 5.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.12.97 : ISO 4113

Combination No. : 0 403 476 097

Injection pump

Pump designation : PES6MW100/720RS1131

: -1

EP type number : 0 413 406 165

Governor

Governer design. : RSV350...1300MW0A342

: -2

Governer no.

: 0 420 085 157

Cust. part No. : 0200740002

Customer-spec. information Customer : MB-NFZ : OM 366 LA Motor

Power KW

: 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar

: **←** 1.5

Test lines

: 1 680 750 015

Outside diameter : 6.0

x inside diameter :

3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm

: **←** 0.05 Tolerance mm

Check tolerance mm

Rack travel in mm: 10.50

Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: **←** 0.10

Phasing : 0-60-120-180-240

: -300

: + 0.50 Tolerance

Check

: **←** 0.75 tolerance *NW

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 15.65

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes :

117.0

Tolerance cm3/1000 strokes : \leftarrow 1.0

| a | | | |
|--|------------------------|--|--|
| Check tolerance cm3/1000s. | : ← 3.0 | - Tolerance | 7 5 |
| CH5/10005. | : +- 3.0 | - cm3/1000 strokes : | 3.3 |
| Canad | · | - Check tolerance | 6.0 |
| Spreed | • | - cm3/1000s. : | 0.0 |
| Tolerance | | | |
| cm3/1000 strokes | . 35 | | |
| CHEST TODO SCIONES | | CONTROL LEVER | |
| Check tolerance | • | - CONTINUE ELVEN | |
| cm3/1000s. | : 6.0 | - control lever | |
| | | position degree : 1 | 07.0 |
| | • | tolerance degree : + | 4.0 |
| | - | - | |
| Rated speed rpm | : 350 - | - RATED SPEED | |
| Del. quantity | - | - | |
| cm3/1000 strokes | : 11.0 | - rack travel mm : - Tolerance mm : +- (| 1.00 |
| Tolerance | - | | |
| cm3/1000 strokes | : *** | - Rated speed rpm : 16 | UU |
| Check tolerance | : + 4.5 | nock trouck me | /. nn |
| cm3/1000s. Spreed | ; T'' 4.7 - | rack travel mm : | |
| Spreed Tolerance | · | - Rated speed rpm : 14 - Tolerance 1/min : +- | 75 15 |
| cm3/1000 strokes | : 3.5 | L TOLETANCE TANTA | כו |
| Check tolerance | · - | - - rack travel mm : 1 | <u>ፈ </u> |
| cm3/1000s. | | Rated speed rpm : 13 | |
| CIBS/ 10005. | | Tolerance 1/min : +- | 5 |
| | • | - rocci and crimini | ., |
| (B) SETTING OF IN | NJECTION PUMP - | ASSEMBLY GOVERNOR SETTIN | G |
| WITH GOVERNOR | - | - | |
| | - | - Rated speed rpm : 1 | 340 |
| | • | - rack travel mm : 1 | 4.65 |
| | | - | |
| GUIDE SLEEVE POST | ITION - | - Rated speed rpm : 1 | |
| | - | - Tolerance 1/min : +- | |
| | - | - rack travel mm : | 4.00 |
| control lever | . "" | | |
| position degree | | Dahad amand aman | 7/4 |
| Rated speed rpm | : 800 | | 341 / 45 |
| Rack travel in m | n: 0.65 | - rack travel mm : 1 | 4.65 |
| Tolerance ma | | - Rated speed rpm : 1 | 437 |
| TOTAL GALLE SAME | 0.03 | Tolerance 1/min : +- | |
| governor spring | - - | | 4.00 |
| pre-tension | - | | |
| click setting x | : 4.00 | - | |
| i prain counting N | • | - Rated speed rpm : 1 | 342 |
| | | - Rated speed rpm : 1 - rack travel mm : 1 | 4.65 |
| FULL LOAD DELIVER | RY AT FULL LOAD STOP - | - | |
| | <u>-</u> | - Rated speed rpm : 1 | |
| Rated speed rpm | | - Tolerance 1/min : +- | |
| Aneroid pressure | - | rack travel mm : | 4.0 0 |
| hPa | : 1000 | - | |
| A. 1 | | | |
| Del. quantity | 447.0 | - | |
| cm3/1000 strokes | : 117.0 | - Rated speed rpm : 1 | 343_ |
| cm3/1000 strokes Tolerance | - | | 343 4.65 |
| cm3/1000 strokes Tolerance cm3/1000 strokes | - | - | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : ← 1.0 | - Rated speed rpm : 1 | 439 |
| cm3/1000 strokes Tolerance cm3/1000 strokes | - | - Rated speed rpm : 1 - Tolerance 1/min : +- | 439 |

1344 Rated speed rpm : rack travel mm 14.65

1440 Rated speed rpm Tolerance 1/min rack travel mm 4.00

Rated speed rpm 1345 rack travel mm 14.65

1441 Rated speed rpm Tolerance 1/min 4 4.00 rack travel ma

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm 350 7.40 rack travel mm Tolerance mm : **←** 0.40

Rated speed rpm 100

CRT mm min. : > 19.00

Testing:

2.00 rack travel mm Rated speed rpm 460 Tolerance 1/min 30

TORQUE CONTROL

Rated speed rpm 1300 rack travel mm 15.65 : **←** 0.05 Tolerance mm

Rated speed rom 600 15.65 rack travel mm : **←** 0.10 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 500 Pressure hPa 1000 rack travel mm 15.65 Tolerance mm : + 0.10

Rated speed rpm 500 Pressure hPa : **←** 0.05 Tolerance man

MEASUREMENT

Rated speed rpm 500

500 Pressure hPa : rack travel mm 3.70 Tolerance mm : + 0.10

Pressure hPa 270 : rack travel mm 1.90 Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1000 Rated speed rpm 600 Del. quantity

cm3/1000 strokes : 112.0

Tolerance

cm3/1000 strokes : +-1.5 Check tolerance

cm3/1000s.4.0 Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance

7.0 cm3/1000s.

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 32.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 3.0

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes : +-5.0

Check tolerance

cm3/1000s. 8.0

LOW IDLE

350 Rated speed rpm : Del. quantity cm3/1000 strokes : 11.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.12.97 : ISO 4113

Combination No. : 0 403 476 105

Injection pump

Pump designation : PES6MW100/720RS1131

EP type number : 0 413 406 123

Governor

Governer design. : RSV350...1200MW0A342

: ~8

Governer no.

: 0 420 085 171

Cust. part No. : 0210746702

Customer-spec. information Customer : MB-NFZ Motor : OM 366 A

Power KW

: 114.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C 2.0 Tolerance °C

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

208.5 Tolerance bar : **←** 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: Tolerance bar : + 1.0

Prestroke mm 3.75 Tolerance men : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1200

10.95 Rack travel in mm: Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes : 84.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +-3.0

F10

| | + Check tolerance |
|---|---|
| Spreed | cm3/1000s. : 6.0 |
| Tolerance cm3/1000 strokes : 3.5 | |
| Check tolerance | CONTROL LEVER |
| cm3/1000s. : 6.0 | control lever position degree : 104.0 tolerance degree : +- 4.0 |
| Rated speed rpm : 350 Del. quantity | RATED SPEED |
| cm3/1000 strokes : 11.0 Tolerance | rack travel mm : 1.00 Tolerance mm : +- 0.70 |
| cm3/1000 strokes : +- 2.0 Check tolerance | Rated speed rpm : 1450 |
| cm3/1000s. : +- 4.5 Spreed | rack travel mm : 4.00 Rated speed rpm : 1320 |
| Tolerance cm3/1000 strokes : 3.5 | + Tolerance 1/min : +- 15 |
| Check tolerance cm3/1000s. : 5.5 | rack travel mm : 9.90 Rated speed rpm : 1248 Tolerance 1/min : +- 8 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | ASSEMBLY GOVERNOR SETTING |
| WITH GOTELWION | Rated speed rpm : 1240 rack travel mm : 9.90 |
| GUIDE SLEEVE POSITION | Rated speed rpm : 1289 Tolerance 1/min : +- 4 rack travel mm : 4.00 |
| control lever position degree : - 3 | + rack travel mm : 4.00 |
| Rated speed rpm : 800 | Rated speed rpm : 1241 rack travel mm : 9.90 |
| Rack travel in mm : 0.65 Tolerance mm : +- 0.35 | Rated speed rpm : 1290 |
| governor spring | Tolerance 1/min : +- 4 rack travel mm : 4.00 |
| pre-tension click setting x : 5.75 | |
| FILL LOAD DELTUEDY AT FILL LOAD GTOD | Rated speed rpm : 1242 rack travel mm : 9.90 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 1291 |
| Rated speed rpm : 1200 Aneroid pressure hPa : 750 | + Tolerance 1/min : +- 4 rack travel mm : 4.00 |
| hPa : 750 Del. quantity cm3/1000 strokes : 84.0 | Poted aread area : 12/7 |
| Tolerance cm3/1000 strokes : +- 1.0 | Rated speed rpm : 1243 rack travel mm : 9.90 |
| Check tolerance cm3/1000s. : +- 3.0 | Rated speed rpm : 1292 Tolerance 1/min : +- 4 |
| Spreed Tolerance | rack travel mm : 4.00 |
| cm3/1000 strokes : 3.5 | Rated speed rpm : 1244 |

| rack travel mm | : 9.90 |
|---|---------------------------------------|
| Rated speed rpm Tolerance 1/min rack travel mm | : 1293 : ← 4 : 4.00 |
| Rated speed rpm rack travel mm | : 1245 : 9.90 |
| Rated speed rpm Tolerance 1/min rack travel mm | : 1294 : + 4 : 4.00 |
| LOW IDLE | |
| Setting point w/o | out bumper spring |
| Rated speed rpm rack travel mm; Tolerance mm | : 350 : 6.15 : ← 0.35 |
| Rated speed rpm | : 100 |
| CRT mm min. | : > 19.00 |
| Testing: | |
| rack travel mm Rated speed rpm Tolerance 1/min | : 460 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1200 : 10.95 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | |
| Rated speed rpm rack travel mms Tolerance mms | : 1000 : 11.10 : ← 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 750 : 11.75 : ← 0.10 |
| Rated speed rpm | : 500 |

| Pressure hPa Tolerance mm | : + | - 0.05 |
|---|-----------|-----------------------|
| MEASUREMENT | | |
| Rated speed rpm | : | 500 |
| Pressure hPa rack travel mm Tolerance mm | : + | 400 1.75 - 0.10 |
| Pressure hPa rack travel mm Tolerance mm | : : +- | 300 1.15 - 0.10 |
| FUEL DELIVERY CHA | RACTE | RISTICS |
| Aneroid pressure hPa Rated speed rpm Del. quantity | : | 750 600 |
| cm3/1000 strokes | : | 79.5 |

| hPa | : 750 : 600 |
|--|---------------------|
| Rated speed rpm | . 000 |
| Del. quantity cm3/1000 strokes Tolerance | : 79.5 |
| cm3/1000 strokes | : +- 1.5 |
| Check tolerance cm3/1000s. | : + 4.0 |
| Spreed Tolerance | |
| cm3/1000 strokes | : 5.0 |
| Check tolerance cm3/1000S. | : 7.0 |
| rack travel mm Tolerance mm | : 11.10 : + 0.10 |
| Aneroid pressure | |
| hPa | : - |
| Rated speed rpm Del. quantity | : 500 |
| cm3/1000 strokes | : 46.0 |
| Tolerance cm3/1000 strokes | |

| 46.0 |
|-------|
| - 1.0 |
| - 3.0 |
| |

STARTING FUEL DELIVERY

| Rated speed rpm Del. quantity | : | 100 |
|----------------------------------|------|------|
| cm3/1000 strokes | : | 88.0 |
| Tolerance cm3/1000 strokes | : +- | 5.0 |

Check tolerance : +- 8.0

LOW IDLE

Rated speed rpm : 350

Del. quantity cm3/1000 strokes : 11.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance cm3/1000s. : **←** 4.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

: 5.5 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 476 123

Injection pump

Pump designation : PES6MW100/320RS1227Z

EP type number : 0 413 406 217

Governor

Governer design. : RSV325...1300MW0A350

Governer no. : 0 420 085 200

Cust. part No. : 1249935

Customer—spec. information Customer : DAF Motor : NS133L

Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : ← 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.05
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 13.50 Tolerance mm: : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85
Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 94.5

Tolerance cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : + 3.0
Spreed

| Tolerance cm3/1000 strokes : 3.5 | Check tolerance cm3/1000s. : 6.0 |
|--|---|
| Check tolerance cm3/1000s. : 6.0 | |
| | CONTROL LEVER |
| | control lever |
| Rated speed rpm : 325 | position degree : 102.0 tolerance degree : +- 4.0 |
| Rack travel in mm: 4.50 | + |
| Tolerance mm : + 0.10 | + RATED SPEED |
| Del. quantity | + rack travel mm : 10.85 |
| cm3/1000 strokes : 9.0 | + Rated speed rpm : 1332 |
| Tolerance | + Tolerance 1/min : + 8 |
| cm3/1000 strokes : + 2.0 | + |
| Check tolerance | + rack travel mm : 4.00 |
| cm3/1000s. : + 4.5 | + Rated speed rpm : 1425 |
| Spreed Tolonome | † Tolerance 1/min : + 15 |
| Tolerance cm3/1000 strokes : 3.5 | T mark through an a 4 00 |
| cm3/1000 strokes : 3.5 Check tolerance | + rack travel mm : 1.00 + Tolerance mm : + 0.70 |
| cm3/1000s. : 5.5 | + Rated speed rpm : 1550 |
| UNIO/ 10000 | T nated speed this . 1990 |
| | Frack travel mm : 4.00 |
| (B) SETTING OF INJECTION PUMP | + Rated speed rpm : 1455 |
| WITH GOVERNOR | + Tolerance 1/min : + 15 |
| GUIDE SLEEVE POSITION | I COLUMN TO SE |
| | LOW IDLE |
| control lever | + |
| control lever position degree : - 3 | control lever |
| control lever position degree : - 3 Rated speed rpm : 800 | ‡ |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 | control lever position degree : 70.0 tolerance degree : + 4.0 |
| control lever position degree : - 3 Rated speed rpm : 800 | control lever position degree : 70.0 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel rmm : 4.00 Tolerance mm : + 0.10 Testing: |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel rmm : 4.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 4.50 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel rmm : 4.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1000 | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 4.50 Tolerance mm : + 0.10 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 4.50 Tolerance mm : + 0.10 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1000 Del. quantity | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 4.50 Tolerance mm : + 0.10 rack travel mm : 2.00 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 94.5 | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 4.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 485 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 94.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel rmm : 4.00 Tolerance rmm : + 0.10 Testing: Rated speed rpm : 325 rack travel rmm : 4.50 Tolerance rmm : 4.50 Tolerance rmm : 2.00 Rated speed rpm : 485 Tolerance 1/min : + 35 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 94.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel rmm : 4.00 Tolerance rmm : + 0.10 Testing: Rated speed rpm : 325 rack travel rmm : 4.50 Tolerance rmm : 4.50 Tolerance rmm : 4.50 Tolerance rmm : 2.00 Rated speed rpm : 485 Tolerance 1/min : + 35 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 94.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325 rack travel mm : 4.50 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 485 Tolerance 1/min : + 35 TORQUE CONTROL Rated speed rpm : 1000 |
| control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.65 Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 94.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 | control lever position degree : 70.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel rmm : 4.00 Tolerance rmm : + 0.10 Testing: Rated speed rpm : 325 rack travel rmm : 4.50 Tolerance rmm : + 0.10 rack travel rmm : 2.00 Rated speed rpm : 485 Tolerance 1/min : + 35 |

| Rated speed rpm | : | 1300 |
|-----------------|---|--------|
| rack travel mm | : | 11.85 |
| Tolerance and | : | + 0.10 |

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

| Rated speed rpm | : | 600 |
|-----------------|---|---------------|
| Pressure hPa | : | 1000 |
| rack travel mm | : | 11.85 |
| Tolerance mm | : | ← 0.05 |

| Rated speed rpm | : | 600 |
|-----------------|-----|-------|
| Pressure hPa | : | 290 |
| rack travel mm | : | 11.25 |
| Tolerance mm | : + | -0.05 |

MEASUREMENT

| Rated s | speed | rpm . | : | 600 |
|---------|-------|-------|---|-----|
|---------|-------|-------|---|-----|

| Pressure hPa | : | - |
|----------------|------|------|
| rack travel mm | : | 9.90 |
| Tolerance mm | : +- | 0.10 |

| Pressure hPa | : | 160 |
|----------------|-----|--------|
| rack travel mm | : | 10.40 |
| Tolerance mm | : + | - 0.10 |

FUEL DELIVERY CHARACTERISTICS

| Aneroid pressure hPa Rated speed rpm Del. quantity | : | 1060 1300 |
|---|-----|--------------|
| cm3/1000 strokes | : | 92.0 |
| Tolerance cm3/1000 strokes | : 1 | - 1.5 |
| Check tolerance | • | |
| cm3/1000s. Spreed | : 1 | - 4.0 |
| Tolerance | | |
| cm3/1000 strokes | : | 5.0 |
| Check tolerance cm3/1000s. | : | 7.0 |
| | | |

| Aneroid pressure | | |
|------------------|---|------|
| hPa | : | - |
| Rated speed rpm | : | 600 |
| Del. quantity | | |
| cm3/1000 strokes | : | 63.0 |

| Tolerance | | |
|------------------|------|-----|
| cm3/1000 strokes | : +- | 1.0 |
| Check tolerance | | |
| cm3/1000s. | • +- | 3.0 |

LOW IDLE

| Rated speed rpm | : | 325 |
|--|------|--------------|
| Rack travel in mm Tolerance mm Del. quantity | : +- | 4.50 0.10 |
| cm3/1000 strokes | : | 9.0 |
| cm3/1000 strokes Check tolerance | : +- | 2.0 |
| cm3/1000s. Spreed Tolerance | : +- | 4.5 |
| cm3/1000 strokes | : | 3.5 |
| Check tolerance cm3/1000s. | : | 5.5 |
| | | |

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 476 136

Injection pump

Pump designation : PES6MW100/320RS1237

EP type number : 0 413 406 233

Governor

Governer design. : RSV300...1100MW1A353

Governer no. : 0 420 085 223

Cust. part No. :

Customer—spec. information Customer : VME Motor : TD61GD

Power KW : 92.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : ← 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\bullet}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 9.90 Tolerance mm: : + 0.05

Del. quantity

cm3/1000 strokes : 106.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.

: +- 3.0

Spreed

| Tolerance cm3/1000 strokes : 3.5 Check tolerance | Check tolerance cm3/1000s. : 6.0 |
|---|--|
| cm3/1000s. : 6.0 | CONTROL LEVER |
| Rated speed rpm : 315 | control lever position degree : 114.0 tolerance degree : +- 4.0 |
| Rack travel in mm: 6.50 Tolerance mm: + 0.10 Del. quantity | RATED SPEED rack travel mm : 8.90 |
| cm3/1000 strokes : 6.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance | Rated speed rpm : 1140 Tolerance 1/min : + 5 |
| cm3/1000s. : + 4.5 Spreed Tolerance | rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : +- 15 |
| cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5 | rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1250 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | |
| <u> </u> | LOW IDLE |
| GUIDE SLEEVE POSITION | control lever position degree : 82.0 tolerance degree : +- 4.0 |
| control lever position degree : - 3 Rated speed rpm : 800 | Setting point w/out bumper spring Rated speed rpm : 100 |
| Rack travel in mm: 0.65 Tolerance mm: + 0.35 | CRT mm min. : > 19.00 |
| governor spring pre-tension click setting x : 4.00 | Testing: Rated speed rpm : 315 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | rack travel mm : 6.50 Tolerance mm : + 0.10 |
| Rated speed rpm : 1100 | TORQUE CONTROL |
| Aneroid pressure hPa : - Del. quantity | Rated speed rpm : 1100 rack travel mm : 9.90 Tolerance mm : +- 0.05 |
| cm3/1000 strokes : 106.0 + Tolerance cm3/1000 strokes : + 1.0 + 1.0 | Rated speed rpm : 500 rack travel mm : 11.30 Tolerance mm : +- 0.10 |
| Check tolerance cm3/1000s. : + 3.0 + Spreed | Rated speed rpm : 660 |
| Tolerance cm3/1000 strokes : 3.5 | rack travel mm : 10.20 Tolerance mm : + 0.10 |

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 107.0 Tolerance cm3/1000 strokes : +-Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. 7.0

rack travel mm : 10.20 Tolerance mm : + 0.10

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 90.0 Tolerance cm3/1000 strokes : + 7.0 Check tolerance cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm 315 Rack travel in mm: 6.50 Tolerance mm : + 0.10Del. quantity cm3/1000 strokes : 6.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s.4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 476 141

Injection pump

Pump designation : PES6MW100/720RS1144

EP type number : 0 413 406 138

Governor

Governer design. : RSV350...1300MW0A364

Governer no. : 0 420 085 247

Cust. part No. : 0260742002

Customer—spec. information Customer : MB-NFZ Motor : OM 366 LA Power KW : 127.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05

Check

tolerance man : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance $: \leftarrow 0.50$

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 11.65
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 85.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : \leftarrow 3.0

Spreed

| Tolerance cm3/1000 strokes : 3.5 | Check tolerance cm3/1000s. : 6.0 |
|--|--|
| Check tolerance cm3/1000s. : 6.0 | |
| | CONTROL LEVER |
| Rarted speed rpm : 350 | control lever position degree : 113.0 toleræ⊊e degree : +- 4.0 |
| Rack travel in mm : 8.40 | • |
| Tolerance mm : + 0.35 Del. quantity | RATED SPEED |
| cm3/1000 strokes : 11.0 + | rack travel mm : 1.00 |
| Tolerance cm3/1000 strokes : + 2.0 | Tolerance mm : +- 0.70 Rated speed rpm : 1550 |
| Check tolerance + 4.5 + 4.5 | rack travel mm : 4.00 |
| Spreed | Rated speed rpm : 1445 |
| Tolerance | Tolerance 1/min : + 15 |
| cm3/1000 strokes : 3.5 | rack travel mm : 10.60 |
| Check tolerance cm3/1000s. : 5.5 | Rated speed rpm : 1343 |
| 1 | Tolerance 1/min : +- 8 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | ASSEMBLY GOVERNOR SETTING |
| † | Rated speed rpm : 1340 |
| <u> </u> | rack travel mm : 10.60 |
| GUIDE SLEEVE POSITION | Rated speed rpm : 1401 |
| Ī | Tolerance 1/min : + 4 rack travel mm : 4.00 |
| control lever | 1 30 C 1 370 C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| position degree : -3 | 8 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 |
| Rated speed rpm : 300 | Rated speed rpm : 1341 rack travel mm : 10.60 |
| Rack travel in mm: 0.65 | rack cravec min . 10.00 |
| Tolerance mm : + 0.35 | Rated speed rpm : 1402 |
| <u></u> | Tolerance 1/min : + 4 |
| governor spring + pre-tension + | rack travel mm : 4.00 |
| click setting x : 4.20 | |
| † | Rated speed rpm : 1342 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | rack travel mm : 10.60 |
| Bodad anald man is 4700 | Rated speed rpm : 1403 |
| Ratted speed rpm : 1300 + Ameroid pressure + | Tolerance 1/min : + 4 rack travel mm : 4.00 |
| hPa : - + | rack travet ham . 4.00 |
| Del. quantity + cm3/1000 strokes : 85.0 + | Pated speed nom . 13/3 |
| Tolerance | Rated speed rpm : 1343 rack travel mm : 10.60 |
| cm3/1000 strokes : + 1.0 | 10.00 |
| Check tolerance | Rated speed rpm : 1404 |
| cm3/1000s. : + 3.0 + 5preed | Tolerance 1/min : +- 4 rack travel mm : 4.00 |
| Tolerance + | I GUR LEGYEL HIRE : 4.00 |
| cm3/1000 strokes : 3.5 | |
| + | Rated speed rpm : 1344 |

rack travel mm : 10.60 Rated speed rpm 1405 Tolerance 1/min rack travel mm 4.00 1345 Rated speed rpm : rack travel mm 10.60 1406 Rated speed rpm Tolerance 1/min : + rack travel am 4.00 LOW IDLE Setting point w/out bumper spring Rated speed rpm 100 : CRT men min. : > 19.00 Testing: Rated speed rpm : 350 rack travel mm 8.40 : **←** 0.35 Tolerance nm 2.00 rack travel mm Rated speed rpm 470 Tolerance 1/min : +-30 TORQUE CONTROL 1300 Rated speed rpm rack travel mm 11.65 Tolerance mm : +- 0.05 900 Rated speed rpm 11.95 rack travel mm : + 0.10Tolerance me FUEL DELIVERY CHARACTERISTICS Aneroid pressure 900 Rated speed rpm Del. quantity cm3/1000 strokes : 78.0 Tolerance

Tolerance cm3/1000 strokes : 5.0 Check tolerance 7.0 cm3/1000s. STARTING FUEL DELIVERY Rated speed rpm 100 Del. quantity cm3/1000 strokes : 85.0 Tolerance cm3/1000 strokes : +-5.0 Check tolerance cm3/1000s. : +-8.0 LOW IDLE Rated speed rpm : Rack travel in mm : Tolerance mm : + 0.35 Del. quantity cm3/1000 strokes : 11.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 : +-Spreed Tolerance 3.5 cm3/1000 strokes : Check tolerance cm3/1000s.5.5

End of test specification sheet

Spreed

cm3/1000 strokes : \leftarrow 1.5

: +-

4.0

Check tolerance cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.12.97 Edition : ISC 4113 Test oil

Combination No. : 0 403 476 142

Injection pump

Pump designation : PES6MW100/720RS1239

EP type number : 0 413 406 238

Governor

Governer design. : RSV350...1200MWDA372

Governer no. : 0 420 085 255

Cust. part No. : 0250748902

Customer-spec. information : MB-NFZ Customer : 0M366LA Motor 90.0 Power KN

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar

: 1 680 750 089 Test lines

Outside diameter : 8.0 x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm 3.65 : **←** 0.05 Tolerance mm Check

: + 0.10tolerance mm

Rack travel in mm : 20.00 : +- 1.00 Tolerance mm

Firing order : 1-5- 3- 6- 2-

Phasing : 0-60-120-180-240

: -300

: + 0.50

Tolerance

Check

tolerance *NW : + - 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 12.30 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 67.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s.: +-3.0

Spreed

| Tolerance : 3.5 Check tolerance | Check tolerance cm3/1000s. : 6.0 |
|--|--|
| cm3/1000s. : 6.0 | |
| | CONTROL LEVER |
| Rated speed rpm : 350 | control lever position degree : 119.0 tolerance degree : +- 4.0 |
| Rack travel in mm: 7.50 Tolerance mm: + 0.25 | RATED SPEED |
| Del. quantity cm3/1000 strokes : 12.0 Tolerance | rack travel mm : 1.00 Tolerance mm : + 0.70 |
| cm3/1000 strokes : + 2.0 Check tolerance | Rated speed rpm : 1450 |
| cm3/1000s. : + 4.5 Spreed | rack travel mm : 4.00 Rated speed rpm : 1400 |
| Tolerance + cm3/1000 strokes : 3.5 + Check tolerance + cm3/1000 strokes : 3.5 + cm3/1000 strokes | Tolerance 1/min : +- 15 |
| cm3/1000s. : 5.5 | rack travel mm : 11.30 Rated speed rpm : 1250 Tolerance 1/min : +- 8 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | ASSEMBLY GOVERNOR SETTING |
| 1 | Rated speed rpm : 1240 rack travel mm : 11.30 |
| GUIDE SLEEVE POSITION | Rated speed rpm : 1370 Tolerance 1/min : +- 4 |
| control lever + position degree : - 3 | rack travel mm : 4.00 |
| Rated speed rpm : 800 | Rated speed rpm : 1241 rack travel mm : 11.30 |
| Rack travel in mm: 0.65 Tolerance mm: : + 0.35 | Rated speed rpm : 1371 Tolerance 1/min : + 4 |
| governor spring pre-tension | rack travel mm : 4.00 |
| click setting x : 4.00 | Rated speed rpm : 1242 rack travel mm : 11.30 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 1372 |
| Rated speed rpm : 1200 | Tolerance 1/min : +- 4 |
| Aneroid pressure hPa : - + Del. quantity + | rack travel mm : 4.00 |
| cm3/1000 strokes : 67.0 Tolerance | Rated speed rpm : 1243 rack travel mm : 11.30 |
| cm3/1000 strokes : + 1.0 + 1.0 + 1.0 + 1.0 | Rated speed rpm : 1373 |
| cm3/1000s. : +- 3.0 +- Spreed +- Tolerance +- | Tolerance 1/min : +- 4 rack travel mm : 4.00 |
| cm3/1000 strokes : 3.5 | Rated speed rpm : 1248 |

rack travel mm : 11.30

1378 Rated speed rpm Tolerance 1/min 4.00 rack travel

Rated speed rpm 1249 rack travel mm 11.30

1379 Rated speed rom Tolerance 1/min : ← 4.00 rack travel mm

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

350 Rated speed rpm 7.50 rack travel mm : + 0.25 Tolerance ma

TORQUE CONTROL

1200 Rated speed rpm : 12.30 rack travel mm Tolerance mm : + 0.05

600 Rated speed rpm : 12.30 rack travel mm : **←** 0.10 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa 600 Rated speed rpm Del. quantity 45.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. 4.0 Spreed

Tolerance cm3/1000 strokes : 5.0 Check tolerance

cm3/1000s. 7.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 83.0

Tolerance cm3/1000 strokes : \leftarrow 5.0

Check tolerance

cm3/1000s. : +-8.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 7.50 : +- 0.25 Tolerance mm Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : +-2.0 Check tolerance

: +-

cm3/1000S.Spreed

Tolerance 3.5 cm3/1000 strokes :

Check tolerance

cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : 0 403 476 143

Injection pump

Pump designation : PES6MW100/720RS1239

EP type number : 0 413 406 238

Governor

Governer design. : RSV350...1200MWOA373

Governer no. : 0 420 085 256

Cust. part No. : 0260746002

Customer—spec. information Customer : MB-NFZ Motor : OM366LA Power KW : 62.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

tolerance mm

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05
Check

Rack travel in mm : 20.00

Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

: ← 0.10

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.30 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 47.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

| Tolerance cm3/1000 strokes : 3.5 Check tolerance | Check tolerance cm3/1000s. : 6.0 |
|--|---|
| cm3/1000s. : 6.0 | CONTROL LEVER |
| Rated speed rpm : 350 | control lever position degree : 119.0 |
| Rack travel in man: 7.50 - Tolerance man: + 0.25 - | RATED SPEED |
| Del. quantity - cm3/1000 strokes : 12.0 - Tolerance - | rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1450 |
| cm3/1000 strokes : + 2.0 - Check tolerance - | rack travel mm : 4.00 |
| cm3/1000s. : + 4.5 - Spreed - Tolerance - | Rated speed rpm : 1370 Tolerance 1/min : +- 15 |
| cm3/1000 strokes : 3.5 - Check tolerance | rack travel mm : 9.30 Rated speed rpm : 1250 |
| cm3/1000s. : 5.5 | Tolerance 1/min : + 8 |
| (B) SETTING OF INJECTION PUMP - | ASSEMBLY GOVERNOR SETTING |
| WITH GOVERNOR - | Rated speed rpm : 1240 rack travel mm : 9.30 |
| GUIDE SLEEVE POSITION | Rated speed rpm : 1340 Tolerance 1/min : + 4 rack travel mm : 4.00 |
| control lever 3 | Rated speed rpm : 1241 |
| position degree : -3 Rated speed rpm : 800 | Rated speed rpm : 1241 rack travel mm : 9.30 |
| Rack travel in mm: 0.65 Tolerance mm: + 0.35 governor spring | Rated speed rpm : 1341 Tolerance 1/min : + 4 rack travel mm : 4.00 |
| pre-tension - click setting x : 4.00 - | Rated speed rom : 1242 |
| | Rated speed rpm : 1242 rack travel mm : 9.30 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 1342 Tolerance 1/min : + 4 |
| Rated speed rpm : 1200 - Ameroid pressure - | rack travel mm : 4.00 |
| hPa : Del. quantity - cm3/1000 strokes : 47.0 - | Rated speed rpm : 1243 rack travel mm : 9.30 |
| Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - | Rated speed rpm : 1343 Tolerance 1/min : +- 4 |
| Check tolerance cm3/1000S. : + 3.0 - Spreed - Tolerance - | rack travel mm : 4.00 |
| cm3/1000 strokes : 3.5 | Rated speed rpm : 1248 rack travel mm : 9.30 |

| Rated speed rpm | : | 1348 |
|-----------------|-----|------------|
| Tolerance 1/min | : → | ⊢ 4 |
| rack travel mm | : | 4.00 |

| Rated speed | rpm | : | 1249 |
|-------------|-----|---|------|
| rack travel | MA | : | 9.30 |

| Rated speed rpm | : | | 1349 |
|-----------------|---|----|------|
| Tolerance 1/min | : | +- | 4 |
| rack travel mm | : | | 4.00 |

LOW IDLE

Setting point w/out bumper spring

| Rated | speed | rpm | : | 100 |
|-------|-------|-----|---|-----|
|-------|-------|-----|---|-----|

CRT mmm min. : > 19.00

Testing:

| Rated speed rpm | : | 350 |
|-----------------|-----|--------|
| rack travel mm | : | 7.50 |
| Tolerance mm | : + | - 0.25 |

TORQUE CONTROL

| Rated speed rpm | : | 1200 |
|-----------------|-----|---------------|
| rack travel mm | : | 10.30 |
| Tolerance mm | : 4 | ⊢ 0.05 |

| Rated speed rpm | : | 600 |
|-----------------|-----|--------|
| rack travel mm | : | 10.30 |
| Tolerance mm | : + | - 0.10 |

FUEL DELIVERY CHARACTERISTICS

| Aneroid pressure | | | |
|------------------|---|----|------|
| hPa | : | | _ |
| Rated speed rpm | : | | 600 |
| Del. quantity | | | |
| cm3/1000 strokes | : | | 28.0 |
| Tolerance | | | |
| cm3/1000 strokes | : | +- | 1.5 |
| Check tolerance | | | |
| cm3/1000s. | : | +- | 4.0 |
| Spreed | | | |
| Tolerance | | | |
| cm3/1000 strokes | : | | 5.0 |
| Check tolerance | | | |
| cm3/1000s. | : | | 7.0 |

STARTING FUEL DELIVERY

| Rated speed rpm Del. quantity | : | 100 | |
|-------------------------------------|------|------|--|
| cm3/1000 strokes Tolerance | : | 83.0 | |
| cm3/1000 strokes Check tolerance | : +- | 5.0 | |
| cm3/1000s. | : +- | 8.0 | |

LOW IDLE

| Rated speed rpm | : | | 350 |
|--|----------|----------|--------------|
| Rack travel in mm Tolerance mm Del. quantity | : : - | | 7.50 0.25 |
| cm3/1000 strokes | : | | 12.0 |
| Tolerance cm3/1000 strokes | : 4 | - | 2.0 |
| Check tolerance cm3/1000s. | : 1 | - | 4.5 |
| Spreed Tolerance cm3/1000 strokes | | | 3.5 |
| Check tolerance | • | | |
| cm3/1000S. | : | | 5.5 |
| | | | |

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.12.97 Test oil : ISO 4113

Combination No. : 0 402 066 711

Injection pump

Pump designation : PES6P120A120RS3358

EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1100P2A661

6overner no. : 0 421 833 581

Cust. part No. : 3283574

Customer—spec. information
Customer : CUMMINS
Motor : 6BTAA ELITE
Power KW : 139.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Overflow quantity

min. l/h : 100 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ← 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 6.75 Tolerance : +- 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

| Rack travel in mm : 11.80 Tolerance mm : + 0.05 |
|---|
| Tolerance cm3/1000 strokes : + 1.0 |
| Check tolerance cm3/1000s. : + 3.0 |
| Spreed |
| Tolerance cm3/1000 strokes : 4.0 |
| Check tolerance cm3/1000s. : 7.5 |
| |
| Rated speed rpm : 475 |
| Rack travel in mm: 5.80 Tolerance mm: +- 0.10 Tolerance |
| cm3/1000 strokes : + 2.0 Check tolerance |
| cm3/1000s : +- 4.5 Spreed |
| Tolerance - cm3/1000 strokes : 6.0 - |
| Check tolerance cm3/1000s. : 9.0 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR |
| GUIDE SLEEVE POSITION |
| control lever position degree : - 3 Rated speed rpm : 800 |
| Rack travel in mm : 0.50 Tolerance mm : + 0.20 |
| governor spring - pre-tension - click setting x : 5.25 - |
| FULL LOAD DELIVERY AT FULL LOAD STOP |
| Rated speed rpm : 1100 |

| : 108.0 : + 4.0 |
|-------------------------------|
| |
| |
| 4.0 |
| : 10.80 : 1145 : ← 5 |
| : 4.00 : 1270 : +- 15 |
| : 0.85 : +- 0.55 : 1400 |
| : 4.00 : 1280 : +- 15 |
| |

LOW IDLE

control lever

position degree : 88.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 475 rack travel mm : 5.30 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 475 rack travel mma : 5.80 : **←** 0.10 Tolerance mm

rack travel mma : 2.00

| Rated speed rpm Tolerance 1/min | : 635 : +- 30 |
|---|---|
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1100 : 11.80 : ← 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 750 : 11.80 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mma Tolerance mma | : 500 : 1600 : 11.80 : +- 0.05 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : - : 8.30 : ← 0.20 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mma | : 1000 : 11.30 : +- 0.20 |
| Pressure hPa rack travel mm Tolerance mm | : 450 : 9.00 : → 0.05 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm | : 1600 : 750 |
| Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : ← 3.0 : ← 6.0 |
| Spreed Tolerance cm3/1000 strokes Check tolerance | : 12.0 |
| cm3/1000s. | : 16.0 |

| Aneroid pressure hPa | : | _ | |
|---|-----------------|----------------------|--------------|
| Rated speed rpm Tolerance | : | 500 | |
| cm3/1000 strokes Check tolerance | : +- | 2.0 | |
| cm3/1000S. | : +- | 4.0 | |
| STARTING FUEL DEL | IVERY | | |
| Rated speed rpm | : | 100 | |
| rack travel mm Tolerance mm | : : +- | 20.25 | |
| Tolerance | • '- | 0.75 | |
| cm3/1000 strokes Check tolerance | : +- | 20.0 | |
| cm3/1000s. | : +- | 25.0 | |
| LOW IDLE Rated speed rpm | • | 475 | |
| Rateu Speeu Ipii | • | 477 | |
| Rack travel in mm Tolerance mm Tolerance | : +- | 5. 80 0.10 | |
| | | | |
| cm3/1000 strokes | : +- | 2.0 | |
| cm3/1000 strokes Check tolerance | : +- | | |
| cm3/1000 strokes Check tolerance cm3/1000s. Spreed | : +- | 2.0 4.5 | |
| cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | : +- | 4.5 | |
| cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance | : ← : | 4.5 6.0 | |
| cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes | : +- | 4.5 | |
| cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance | : ← : | 4.5 6.0 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 18.12.97 : ISO 4113

Combination No. : 0 402 076 820

Injection pump

Pump designation : PES6P120A720LS3395

EP type number : 0 412 026 806

Governor

Governer design. : RSV350...1200POA688

Governer no.

: 0 421 833 610

Cust. part No. : 315862F91

Customer-spec. information

Customer : FINCANTIERI

Motor

: L 1306 T 2 MSD

Power KW

: 370.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

40

Tolerance °C

: + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

har

208.5

Tolerance bar

: + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 3.55 : + 0.05 Tolerance mm

Check

: +- 0.10tolerance mm

Rack travel in mm: 10.50 Tolerance was: + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 15.25

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 276.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +- 4.0

| Spi ecu |
|---------|
|---------|

Tolerance cm3/1000 strokes : 6.0

Check tolerance cm3/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 7.00
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 18.0
Tolerance
cm3/1000 strokes : + 3.0

Check tolerance cm3/1000S. : +- 6.0 Spreed

Spreed Tolerance

cm3/1000 strokes : 10.0 Check tolerance cm3/1000s. : 14.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever

position degree : - 3

governor spring

pre-tension

click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200 Aneroid pressure

hPa : 1300

Del. quantity

cm3/1000 strokes : 276.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : ← 4.0

Spreed

Tolerance cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 9.0

RATED SPEED

rack travel mm : 14.20
Rated speed rpm : 1245
Tolerance 1/min : + 5

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1650

rack travel mm : 4.00 Rated speed rpm : 1500 Tolerance 1/min : + 30

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : +- 0.10

Testing:

Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : $\leftarrow 0.10$

TORQUE CONTROL

Rated speed rpm : 1200 rack travel mm : 15.25 Tolerance mm : + 0.05

Rated speed rpm : 500 rack travel mm : 15.30 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1300
rack travel mma : 15.25
Tolerance mm : + 0.05

Rated speed rpm : 600
Pressure hPa : rack travel mm : 11.00
Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 600

Pressure hPa 500 : rack travel mm 12.80 Tolerance no : **←** 0.10

900 Pressure hPa rack travel mm 14.65 Tolerance mm : **←** 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure 1300 hPa Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 289.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000S. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 10.0 Check tolerance cm3/1000s.14.0

Aneroid pressure hPa Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 156.0 Tolerance cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated, rack must reach start position in max. control lever setting.

Rated speed rpm : rack travel mm : 100 20.25 : **←** 0.75 Tolerance mm Del. quantity cm3/1000 strokes : 410.0 Tolerance cm3/1000 strokes : \leftarrow 10.0 Check tolerance cm3/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 350 Rack travel in mm : 7.00 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : \leftarrow 3.0

Check tolerance cm3/1000s. : +-6.0 Spreed

Tolerance

cm3/1000 strokes : 10.0

Check tolerance

cm3/1000s. 14.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 23,12,97 : ISO 4113

Combination No. : 0 402 646 671

Injection purpo

Pump designation : PE6P120A320RS7421 EP type number : 0 412 626 956

Governor

Governer design. : RQV275...1150PA1297K

Governer no.

: 0 421 815 524

Cust. part No. : 1316184/1

Customer—spec. information : DAF Customer Motor : PF 212 M Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temo. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : \leftarrow 0.1

Overflow quantity

: 160 min. L/h Tolerance l/h: +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : **←** 1.5 Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mms : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 4.85 Prestroke mm Tolerance mm : +- 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm: +- 1.50

: 1-5- 3- 6- 2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm: 12.35 Tolerance mm : +- 0.05

| | + guide sle | A VA |
|---------------------------------------|---|---|
| Del. quantity | + travel mm | |
| cm3/1000 strokes : 231.0 | | |
| | | |
| Tolerance | Rated spe | ed rpm : 1480 |
| cm3/1000 strokes : +- 1.0 | | · · · · · · · · · · · · · · · · · · · |
| Cast too Serones | travel mm | |
| Check tolerance | Tolerance | |
| cm3/1000s. : +- 4.0 | | 100 · · · · · · · · · · · · · · · · · · |
| CH5/ 10005. | Ι | |
| Spreed | I GITTLE SIE | EVE POSITION |
| opi eed | I GOIDE SEE | EAE LOSTITOIA |
| Tolerance | \mathbf{I} | |
| cm3/1000 strokes : 5.0 | control l | AVAR |
| Chorioto strokes . J. | position | - · · |
| Check tolerance | Rated Spe | |
| cm3/1000s. : 9.0 | | eu rpin . 1329 |
| CHD/10003 9.0 | u de la companya de | elinmm: 11.10 |
| | | |
| | † Tolerance | ium : +- 2.70 |
| Rated speed rpm : 275 | Ť | |
| varen sheen this : 513 | T 5111 1000 | DELIVERY AT FULL LOAD STOP |
| Rack travel in mm : 4.90 | | DECIVER AT FULL LUMD STOP |
| Tolerance and $: \leftarrow 0.10$ | | edirpm : 850 |
| Del. quantity | + Rated spe + Aneroid p | |
| cm3/1000 strokes : 16.0 | | : 1500 |
| Tolerance | 1 | |
| $cm3/1000$ strokes : \leftarrow 3.0 | + Del. quan | |
| Check tolerance | | |
| cm3/1000s. \leftarrow 6.0 | + Tolerance | strokes : +- 1.0 |
| | Check tol | |
| Spreed Tolorope | + cneck tot | |
| Tolerance cm3/1000 strokes : 8.0 | | . : +- 4.0 |
| Check tolerance | Tolerance | |
| cm3/1000s. : 12.0 | | strokes: 5.0 |
| CM3/10008. : 12.0 | - Check tol | |
| | | |
| (B) SETTING OF INJECTION PUR | + cm3/1000s | . : 9.0 |
| WITH GOVERNOR | T | |
| MILL GOACUAOK | T | |
| | CONTROL L | FVED |
| GUIDE SLEEVE TRAVEL | 1 continue e | F 4 F1/ |
| TOTAL TENTE | + control l | ever |
| Rated speed rpm : 1206 | | degree : 118.0 |
| guide sleeve | | degree : +- 4.0 |
| travel mm : 10.12 | | 409.00 |
| Tolerance mm : +- 0.15 | | FD |
| | + rack trav | |
| Rated speed rpm : 275 | + Rated spe | |
| guide sleeve | + Tolerance | |
| travel ma : 1.71 | Check | - · · · · · · · · · · · · · · · · · · · |
| Tolerance mm : + 0.20 | | in : +- 10 |
| | 1 | |
| Rated speed rpm : 813 | rack trav | elmm: 4.00 |
| guide sleeve | Rated spe | · · · · · · · · · · · · · · · · · · |
| travel mm : 6.81 | + Tolerance | |
| Tolerance mm : + 0.25 | | |
| TOCOLORIO INT. | speed 1/m | in : +- 20 |
| Rated speed rpm : 450 | 1 | |
| TOUR OPECA I MILE 6 TOU | + rack trav | elmm: 0.70 |
| | I I I WOR CITY | · V.1V |

| Tolerance mm Rated speed rpm | : ← 0.70 : 1400 | | |
|--|-------------------------------|--|--|
| LOW IDLE | | | |
| control lever position degree tolerance degree | : 71.0 : ← 4.0 | | |
| Setting point w/out bumper spring | | | |
| Rated speed rpm | : 175 | | |
| CRT mm min. | : > 7.50 | | |
| Testing: | | | |
| Rated speed rpm rack travel mm Tolerance mm | : 275 : 4.90 : + 0.10 | | |
| Rated speed rpm | : 350 | | |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 850 : 12.35 : + 0.05 | | |
| Rated speed rpm rack travel mm Tolerance mm | : 1130 : 12.10 : ← 0.10 | | |
| Rated speed rpm rack travel mm Tolerance mm | : 1000 : 12.15 : ← 0.10 | | |
| Rated speed rpm rack travel mm Tolerance mm | : 800 : 12.25 : ← 0.10 | | |
| Rated speed rpm rack travel mm Tolerance mm | : 650 : 11.50 : ← 0.10 | | |
| Rated speed rpm rack travel mm Tolerance mm | : 500 : 10.85 : + 0.10 | | |

| ANEROID/ALTITUDE COMPENSATOR TEST | | | |
|---|--|--|--|
| SETTING | | | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 875 : 1500 : 12.35 : ← 0.10 | | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 875 : - : 8.00 : + 0.10 | | |
| MEASUREMENT | | | |
| Rated speed rpm | : 875 | | |
| Pressure hPa rack travel mm Tolerance mma | : 420 : 11.35 : + 0.05 | | |
| Pressure hPa rack travel mm Tolerance mm | : 150 : 9.20 : ← 0.10 | | |
| FUEL DELIVERY CHARACTERISTICS | | | |
| Aneroid pressure hPa Rated speed rpm Del. quantity | : 1500 : 1130 | | |
| cm3/1000 strokes | : 207.0 | | |
| Tolerance cm3/1000 strokes | | | |
| Al 1 | : ← 2.0 | | |
| Check tolerance cm3/1000s. Spreed | : + 2.0 : + 5.0 | | |
| cm3/1000S. Spreed Tolerance cm3/1000 strokes | | | |
| cm3/1000s. Spreed Tolerance | : + 5.0 | | |
| cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance | : + 5.0 : 8.0 | | |

Aneroid pressure

Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 138.0

hPa

Rated speed rpm : 1150 rack travel mm : 12.10

Tolerance mm : + 0.10

Tolerance cm3/1000 strokes : \(\to \) 1.0 Check tolerance cm3/1000s. : \(\to \) 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

LOW IDLE

Rated speed rpm : 275 Rack travel in mm: 4.90 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 : +-Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.12.97 : ISO 4113

Combination No. : 0 402 646 990

Injection pump

Pump designation : PE6P130A720RS7225

EP type number : 0 412 636 817

Governor

Governer design. : RQV300...950PA975

: -2K

Governer no.

: 0 421 815 310

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE

Motor

: 8210.42.369

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 1 417 413 025

Inlet press. bar :

Tolerance bar

: + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 075

Outside diameter : 8.0

x inside diameter: x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

r: 26.0 : ← 1.0 Test pressure bar :

Tolerance bar

: 5.05 Prestroke mm

Tolerance mm

: +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 12.00

: + 0.50Tolerance mm

Firing order

: 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW

: + 0.75

Start of delivery mark

Check

tolerance *NW

: **←** 0.40

Barrel no.

1

BASIC SETTING

Rated speed rpm :

950

Rack travel in mm: 12.15

Tolerance mm

: +- 0.05

Del. quantity

cm3/1000 strokes: 269.0

| 4 | - Rated speed rpm : 1400 |
|--|---|
| Tolerance | - guide sleeve |
| cm3/1000 strokes : + 1.0 | - travel mm : 13.50 |
| Charle de Lacence | Tolerance mm : + 0.50 |
| Check tolerance cm3/1000s. : ← 4.0 | |
| 1,0003. | - GUIDE SLEEVE POSITION |
| Spreed | |
|) | - |
| Tolerance | control lever |
| cm3/1000 strokes : 5.0 | position degree : - 1 |
| Check tolerance | Rated speed rpm : 1210 |
| cm3/1000s. : 9.0 | Rack travel in mm : 8.00 |
| | Tolerance mm : +- 2.70 |
| | - |
| 700 | |
| Rated speed rpm : 300 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Rack travel in mm : 4.60 | - Rated speed rpm : 950 |
| Tolerance mm : +- 0.10 | - Aneroid pressure |
| Del. quantity | - hPa : 1000 |
| cm3/1000 strokes : 27.0 | - Del. quantity |
| Tolerance | - cm3/1000 strokes : 269.0 |
| cm3/1000 strokes : + 3.0 Check tolerance | - Tolerance - cm3/1000 strokes : +- 1.0 |
| cm3/1000s. : +- 7.0 | - Check tolerance |
| Spreed | - cm3/1000s. : +- 4.0 |
| Tolerance | - Spreed |
| cm3/1000 strokes : 8.0 | Tolerance |
| Check tolerance | - cm3/1000 strokes : 5.0 |
| cm3/1000s. : 12.0 | - Check tolerance - cm3/1000s. : 9.0 |
|] | - CM3/10005. ; 9.0 |
| (B) SETTING OF INJECTION PUMP | - |
| WITH GOVERNOR | |
| + | - CONTROL LEVER |
| CHINE OF PENE TRAVEL | - control lever |
| GUIDE SLEEVE TRAVEL | - control lever - position degree : 1:4.0 |
| Rated speed rpm : 1005 | tolerance degree : +- 4.0 |
| guide sleeve | • |
| travel mm : 8.63 | - RATED SPEED |
| Tolerance mm : + 0.15 | - rack travel mm : 11.10 |
| Rated speed rpm : 300 | - Rated speed rpm : 995 - Tolerance 1/min : +- 5 |
| guide steeve | - Check |
| travel mm : 1.65 | - speed 1/min : +- 10 |
| Tolerance mm : + 0.20 | - |
| 7/0 | - rack travel mm : 4.00 |
| Rated speed rpm : 740 | - Rated speed rpm : 1095 |
| guide sleeve travel mm : 5.98 | - Tolerance 1/min : +- 15 - Check |
| Tolerance mm : + 0.25 | - speed 1/min : + 20 |
| | • |
| Rated speed rpm : 490 | - rack travel mm : 0.50 |
| guide sleeve | - Tolerance mm : + 0.50 |
| travel mm : 3.70 Tolerance mm : +- 0.25 | - Rated speed rpm : 1200 |
| Tolerance mm : + 0.25 | - - rack travel mm : 4.00 |
| T | TOUR STATE OF THE |

LOW IDLE

control lever

position degree : 69.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rom 100 :

: > CRT mm min. 6.20

Testing:

Rated speed rom 300 : rack travel mm 4.60 : Tolerance man : + 0.10

Rated speed rpm 400

TORQUE CONTROL

950 Rated speed rpm rack travel mm 12.15 Tolerance mm : **←** 0.05

Rated speed rpm 700 rack travel mm 12.15 : **←** 0.10 Tolerance mm

Rated speed rpm 550 11.95 rack travel mm : + 0.15Tolerance mm

Rated speed rpm : 350 rack travel mm 11.60 Tolerance mm : **←** 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 950 Pressure hPa 1000 12.15 rack travel mm : + 0.05 Tolerance mm

950 Rated speed rpm Pressure hPa 9.00 rack travel mm Tolerance mm : **←** 0.20

MEASUREMENT

Rated speed rpm 950

Pressure hPa 300 10.05 rack travel mm : + - 0.20Tolerance mm

Pressure hPa 480 rack travel mm 11.65 : + 0.05Tolerance mm

Start interlock

Rated speed rpm :> 100 Rated speed rpm : < 240

Check

speed 1/min 80 : >

Check

speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1000 Rated speed rpm 700

Del. quantity cm3/1000 strokes :

271.0

Tolerance

cm3/1000 strokes : +- 4.0

Check tolerance

cm3/1000s. : +- 7.0

Aneroid pressure

1000 Rated speed rpm 550 rack travel mm 11.95 : + 0.15 Tolerance mm Del. quantity 275.5

cm3/1000 strokes : Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +-5.0

Aneroid pressure

hPa Rated speed rpm 550

Del. quantity cm3/1000 strokes : 166.0

Tolerance

cm3/1000 strokes : +-

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 150.0

Tolerance

cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : \leftarrow 24.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 4.60 Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 27.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : \leftarrow 7.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.11.97 Test oil : ISO 4113

Combination No. : 0 402 648 706

Injection pump

Pump designation : PE8P120A320LS7830 EP type number : 0 412 628 844

Governor

Governer design. : RQ350...600/1150PA13

: 62

Governer no. : 0 421 801 826

Cust. part No. : 0280744002

Customer—spec. information Customer : MTU Motor : 8V183 Power KW : 441.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 1 417 413 077

Inlet press. bar : 2.0

Overflow quantity

min. l/h : 175 Tolerance l/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 20.50 Tolerance mm: + 0.50

Firing order : 8-7-2-6-3-5-4-1

Phasing : 0-45-90-135-180-225

: -270-315 : +- 0.50

Check

Tolerance

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.85 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 312.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +-- 4.0

| | guide sleeve |
|--|---|
| Spreed | + travel mm : 13.50 |
| | + Tolerance mm : + 0.50 |
| Tolerance | † |
| cm3/1000 strokes : 5.0 | + Rated speed rpm : 748 |
| | |
| Check tolerance | + travel mm : 7.15 |
| cm3/1000s. : 9.0 | + Tolerance mm : + 0.10 |
| | 1 |
| | |
| | ↓ GUIDE SLEEVE POSITION |
| Rated speed rpm : 350 | T SOLVE SEELVE TOSTITUT |
| Mateu specu (pm : 330 | I |
| Rack travel in mm : 4.00 | T control lever |
| | |
| Tolerance mm : + 0.10 | position degree : 105 |
| Del. quantity | Rated speed rpm : 850 |
| cm3/1000 strokes : 19.0 | † |
| Tolerance | + Rack travel in mm : 18.00 |
| cm3/1000 strokes : +- 3.0 | † Tolerance mm : + 0.80 |
| Check tolerance | † |
| $cm3/1000s$. : \leftarrow 6.0 | |
| Spreed | + FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | + |
| cm3/1000 strokes : 8.0 | + Rated speed rpm : 1150 |
| Check tolerance | + Aneroid pressure |
| cm3/1000s. : 12.0 | + hPa : 2000 |
| | Del. quantity |
| | + cm3/1000 strokes : 312.0 |
| (B) SETTING OF INJECTION PUMP | |
| WITH GOVERNOR | + cm3/1000 strokes : + 1.0 |
| 4111 00121(40)(| + Check tolerance |
| | |
| GUIDE SLEEVE TRAVEL | + Spreed |
| | + Spreed |
| COIDE SEEFAE HAVEE | · · · · · · · · · · · · · · · · · · · |
| | + Tolerance |
| Rated speed rpm : 1208 | Tolerance cm3/1000 strokes : 5.0 |
| Rated speed rpm : 1208 guide sleeve | Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 | Tolerance cm3/1000 strokes : 5.0 |
| Rated speed rpm : 1208 guide sleeve | Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 | Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve | Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : 40.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : 4 0.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : 4 0.20 | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : 40.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : + 0.20 | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 101.0 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : 40.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : 40.20 Rated speed rpm : 1150 guide sleeve | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 101.0 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : 40.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : 40.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 101.0 tolerance degree : + 4.0 RATED SPEED |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : 40.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : 40.20 Rated speed rpm : 1150 guide sleeve | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 101.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.80 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : 40.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : 40.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : 7.20 Tolerance mm : 40.10 | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 101.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.80 Rated speed rpm : 1195 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : + 0.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : + 0.10 Rated speed rpm : 685 | Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 101.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.80 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : 40.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : 40.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : 7.20 Tolerance mm : 685 guide sleeve | Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 9.0 CONTROL LEVER control lever position degree: 101.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 13.80 Rated speed rpm: 1195 Tolerance 1/min: + 5 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : 40.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : 40.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : 40.10 Rated speed rpm : 685 guide sleeve travel mm : 685 guide sleeve travel mm : 7.05 | Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 9.0 CONTROL LEVER control lever position degree: 101.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 13.80 Rated speed rpm: 1195 Tolerance 1/min: + 5 rack travel mm: 4.00 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : 40.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : 40.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : 7.20 Tolerance mm : 685 guide sleeve | Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 9.0 CONTROL LEVER control lever position degree: 101.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 13.80 Rated speed rpm: 1195 Tolerance 1/min: + 5 rack travel mm: 4.00 Rated speed rpm: 1330 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : + 0.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : + 0.10 Rated speed rpm : 685 guide sleeve travel mm : 7.05 Tolerance mm : 7.05 Tolerance mm : + 0.10 | Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 9.0 CONTROL LEVER control lever position degree: 101.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 13.80 Rated speed rpm: 1195 Tolerance 1/min: + 5 rack travel mm: 4.00 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : + 0.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : + 0.10 Rated speed rpm : 685 guide sleeve travel mm : 7.05 Tolerance mm : 7.05 Tolerance mm : 507 | Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 9.0 CONTROL LEVER control lever position degree: 101.0 tolerance degree: +4.0 RATED SPEED rack travel mm: 13.80 Rated speed rpm: 1195 Tolerance 1/min: +5 rack travel mm: 4.00 Rated speed rpm: 1330 Tolerance 1/min: +15 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : + 0.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : + 0.10 Rated speed rpm : 685 guide sleeve travel mm : 7.05 Tolerance mm : 7.05 Tolerance mm : + 0.10 Rated speed rpm : 507 guide sleeve | Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s: 9.0 CONTROL LEVER control lever position degree: 101.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 13.80 Rated speed rpm: 1195 Tolerance 1/min: + 5 rack travel mm: 4.00 Rated speed rpm: 1330 Tolerance 1/min: + 15 rack travel mm: 0.50 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : + 0.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : + 0.10 Rated speed rpm : 685 guide sleeve travel mm : 7.05 Tolerance mm : 7.05 Tolerance mm : 507 guide sleeve travel mm : 507 guide sleeve travel mm : 507 | Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s: 9.0 CONTROL LEVER control lever position degree: 101.0 tolerance degree: +- 4.0 RATED SPEED rack travel mm: 13.80 Rated speed rpm: 1195 Tolerance 1/min: +- 5 rack travel mm: 4.00 Rated speed rpm: 1330 Tolerance 1/min: +- 15 rack travel mm: 4.00 Rated speed rpm: 1330 Tolerance 1/min: +- 15 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : + 0.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : + 0.10 Rated speed rpm : 685 guide sleeve travel mm : 7.05 Tolerance mm : 7.05 Tolerance mm : + 0.10 Rated speed rpm : 507 guide sleeve | Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s: 9.0 CONTROL LEVER control lever position degree: 101.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 13.80 Rated speed rpm: 1195 Tolerance 1/min: + 5 rack travel mm: 4.00 Rated speed rpm: 1330 Tolerance 1/min: + 15 rack travel mm: 0.50 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : + 0.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : + 0.10 Rated speed rpm : 685 guide sleeve travel mm : 7.05 Tolerance mm : 7.05 Tolerance mm : 507 guide sleeve travel mm : 507 guide sleeve travel mm : 507 guide sleeve travel mm : 507 | Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s: 9.0 CONTROL LEVER control lever position degree: 101.0 tolerance degree: +- 4.0 RATED SPEED rack travel mm: 13.80 Rated speed rpm: 1195 Tolerance 1/min: +- 5 rack travel mm: 4.00 Rated speed rpm: 1330 Tolerance 1/min: +- 15 rack travel mm: 4.00 Rated speed rpm: 1330 Tolerance 1/min: +- 15 |
| Rated speed rpm : 1208 guide sleeve travel mm : 7.54 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 3.25 Tolerance mm : + 0.20 Rated speed rpm : 1150 guide sleeve travel mm : 7.20 Tolerance mm : + 0.10 Rated speed rpm : 685 guide sleeve travel mm : 7.05 Tolerance mm : 7.05 Tolerance mm : 507 guide sleeve travel mm : 507 guide sleeve travel mm : 507 | Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s: 9.0 CONTROL LEVER control lever position degree: 101.0 tolerance degree: +- 4.0 RATED SPEED rack travel mm: 13.80 Rated speed rpm: 1195 Tolerance 1/min: +- 5 rack travel mm: 4.00 Rated speed rpm: 1330 Tolerance 1/min: +- 15 rack travel mm: 4.00 Rated speed rpm: 1330 Tolerance 1/min: +- 15 |

LOW IDLE

control lever

position degree 72.0 tolerance degree : +-4.0

Setting point w/out bumper spring

Rated speed rpm 250

CRT am min. : > 6.00

Testina:

350 Rated speed rpm 4.00 rack travel mm : **←** 0.10 Tolerance mm

2.00 rack travel mm : Rated speed rpm 430 Tolerance 1/min : +-

TORQUE CONTROL

1150 Rated speed rom : rack travel mm 14.85 : **←** 0.05 Tolerance mm

Rated speed rpm 750 : 14.85 rack travel mm : + 0.05 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 Pressure hPa

Rated speed rpm 500 400 Pressure hPa 1.20 rack travel mm : +- 0.05 Tolerance mm

MEASUREMENT

500 Rated speed rpm

Pressure hPa : 1200 5.40 rack travel mm Tolerance mm : +- 0.15

Start interlock

Rated speed rpm : > 260 Rated speed rpm : < 280

Check

speed 1/min : > 250

Check

290 speed 1/min : <

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

2000 Rated speed rpm 750

Del. quantity 309.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +-6.0

Aneroid pressure

500 Rated speed rpm : Del. quantity

cm3/1000 strokes : 121.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : +-4.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 330.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

: +- 19.0 cm3/1000s.

LOW IDLE

350 Rated speed rpm :

Rack travel in mm : 4.00 Tolerance mm : \leftarrow 0.10 Del. quantity
cm3/1000 strokes : 19.0
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.12.97 Test oil : ISO 4113

Combination No. : 0 402 676 833

Injection pump

Pump designation: PE6P120A320RS7426
EP type number: 0 412 626 958

Governor

Governer design. : RSV300...1100P1A650

6overner no. : 0 421 833 567

Cust. part No. : 3826502 PO4 v.06/97

Customer—spec. information Customer : PENTA

Motor : TWD 1031 VE

Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm): 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 300 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 7.40 Tolerance mm: + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

| : +- | 0.75 | |
|----------|---|--|
| : | 1 | |
| | | |
| : 1 | 050 | |
| : : + | 12. 0 0 0.05 | |
| : | 292.0 | |
| : + | 1.0 | · · · · · · · · · · · · · · · · · · · |
| : + | 4.0 | |
| | | ····· |
| : | 7.0 | |
| : | 11.0 | |
| : | 300 | |
| • | 4.60 | |
| | | |
| | 22.0 | |
| ě | <i>c.c.</i> .U | |
| : +- | 3.0 | |
| | | |
| : +- | 6.0 | |
| | | |
| : | 5.0 | |
| • | 9 N | |
| - | | |
| | : 1 : + : + : : : : : : : : : : : : : : | : 1050 : + 12.00 : + 0.05 : 292.0 : + 1.0 : 7.0 : 11.0 : 300 : + 4.60 : + 0.10 : 22.0 : + 3.0 : + 6.0 : 5.0 |

| control lever position degree Rated speed rpm | : - 3 : 800 |
|---|------------------------------|
| Rack travel in mm Tolerance mm | : 0.50 : +- 0.20 |
| governor spring pre-tension click setting x | : 4.25 |
| FULL LOAD DELIVERY | Y AT FULL LOAD STOP |
| Rated speed rpm Aneroid pressure | : 1050 |
| hPa | : 1500 |
| Del. quantity cm3/1000 strokes | : 292.0 |
| Tolerance cm3/1000 strokes | : ← 1.0 |
| Check tolerance cm3/1000s. Spreed | : +- 4.0 |
| Tolerance cm3/1000 strokes | : 7.0 |
| Check tolerance cm3/1000s. | : 11.0 |
| CONTROL LEVER | |
| control lever position degree | : 55.0 |
| tolerance degree | : + 4.0 |
| control lever position degree tolerance degree | : 107.0 : + 4.0 |
| RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min | : 11.00 : 1080 : ← 5 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 4.00 : 1125 : ← 15 |
| rack travel mm Tolerance mm Rated speed rpm | : 0.85 : + 0.55 : 1250 |
| | |

LOW IDLE

GUIDE SLEEVE POSITION

control lever position degree : 73.0

tolerance degree : + 4.0

control lever

position degree : 23.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 300 rack travel mma : 4.10 Tolerance mm : + 0.10

Testing:

Rated speed rom : 300 rack travel mm : 4.60 Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 360
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1050 rack travel mm : 12.00 Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel mm : 12.00 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.00
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : rack travel mm : 7.40
Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 840 rack travel mm : 4.10 Tolerance mm : + 0.20

Pressure hPa : 220 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500 Rated speed rpm : 700

Del. quantity

cm3/1000 strokes : 328.0

Tolerance

cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : ← 6.0

Spreed Tolerance

cm3/1000 strokes : 9.0

Check tolerance

cm3/1000s. : 13.0

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes : 188.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 4.60
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 22.0
Tolerance
cm3/1000 strokes: + 3.0
Check tolerance
cm3/1000s: + 6.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.12.97 Test oil : ISO 4113

Combination No. : 0 402 678 840

Injection pump

Pump designation : PE8P12OA72OLS7446 EP type number : 0 412 628 931

60vernor

Governer design. : RSV350...1100P8A652

: -1

Governer no. : 0 421 833 570

Cust. part No. : 1411028

Customer-spec. information Customer : SCANIA Motor : DSI1468M

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Vibration damper

(RoBo diaphragm) : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1- 2A- 7- 3A- 4

: - 5A- 6- 8A

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : \leftarrow 0.30

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance $: \leftarrow 0.10$

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

| <u> </u> | |
|---|--|
| Rack travel in mm: 14.15 Tolerance mm: : + 0.05 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| | Rated speed rpm : 700 |
| Del. quantity + cm3/1000 strokes : 279.0 + | Aneroid pressure hPa : 1500 |
| 1 | Del. quantity |
| Tolerance cm3/1000 strokes : + 1.0 | cm3/1000 strokes : 279.0 Tolerance |
| Check tolerance | cm3/1000 strokes : + 1.0 Check tolerance |
| cn3/1000s. : + 4.0 | cm3/1000s. : +- 4.0 Spreed |
| Spreed | Tolerance cm3/1000 strokes : 8.0 |
| Tolerance | |
| cm3/1000 strokes : 8.0 | Check tolerance cm3/1000s. : 12.0 |
| Check tolerance cm3/1000S. : 12.0 | |
| | CONTROL LEVER |
| 1 | control lever |
| Rated speed rpm : 350 | position degree : 58.0 |
| Mateu Specu i più : 550 | tolerance degree : + 4.0 |
| Dock denvel de m 5 40 | toterance degree : - 4.0 |
| Rack travel in mm: 5.60 | |
| Tolerance mma : + 0.10 + | control lever |
| Del. quantity + | position degree : 108.0 |
| cm3/1000 strokes : 42.0 + | tolerance degree : +- 4.0 |
| cm3/1000 strokes : + 3.0 + | RATED SPEED |
| Check tolerance | rack travel mm : 13.15 |
| cm3/1000s. : +- 6.0 | |
| | |
| Spreed | Tolerance 1/min : + 5 |
| Tolerance | Check |
| cm3/1000 strokes : 4.0 + | speed 1/min : ← 10 |
| Check tolerance + | |
| cm3/1000s. : 8.0 | rack travel mm : 4.00 |
| | Rated speed rpm : 1235 |
| 1 | Tolerance 1/min : + 15 |
| (B) SETTING OF INJECTION PUMP | |
| _ · · · · · · · · · · · · · · · · · · · | Check |
| WITH GOVERNOR + | speed 1/min : + 20 |
| † | |
| † | rack travel mm : 0.85 |
| | Tolerance mm : + 0.55 |
| GUIDE SLEEVE POSITION | Rated speed rpm : 1400 |
| Ť | mode Americal are 11 / 00 |
| † | rack travel mm : 4.00 |
| control lever | Rated speed rpm : 1265 |
| position degree : -3 + | Tolerance 1/min : + 15 |
| Rated speed rpm : 800 + | Check |
| + | speed 1/min : ← 20 |
| Rack travel in mm: 0.50 | • |
| Tolerance and : + 0.20 | |
| 10:01 Q100 mm . 1 0:00 | |
| T | |
| governor spring + | |
| pre-tension + | LOW IDLE |
| click setting x : 6.00 + | |
| 1 | |

control lever position degree 76.0 tolerance degree : +-4.0 control lever 26.0 position degree tolerance degree : + Setting point w/out bumper spring 350 Rated speed rpm 5.10 rack travel mm Tolerance mm : + 0.10Testing: 350 Rated speed rpm 5.60 rack travel mm Tolerance man 0.10 2.00 rack travel mm Rated speed rom : Tolerance 1/min TORQUE CONTROL Rated speed rpm 700 14.15 rack travel min Tolerance mm : **←** 0.05 Rated speed rpm : 1100 14.15 rack travel mm Tolerance mm : + 0.19ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 500 1500 Pressure hPa 14.15 rack travel mm : +- 0.05 Tolerance mm 500 Rated speed rom Pressure hPa 9,40 rack travel mm : **←** 0.20 Tolerance mm MEASUREMENT Rated speed rpm 500 360 Pressure hPa 9.70 rack travel mm : + 0.20Tolerance mm

Pressure hPa : 840 rack travel mm : 12.45 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500 Rated speed rpm : 1100

Del. quantity

cm3/1000 strokes : 241.0

Tolerance

cm3/1000 strokes : +- 4.0 Check tolerance

cm3/1600s. : + 6.0

- -

Aneroid pressure
hPa : Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 173.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm: 5.60
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 42.0

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : +- 6.0 Spreed

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.12.97 : ISO 4113

Combination No. : 0 402 746 640

Injection pump

Pump designation : PES6P120A320RS7359

EP type number : 0 412 726 925

Governor

Governer design. : RQV300...1050PA1191

Governer no. : 0 421 814 114

Cust. part No. : CCEP 5147C 66-223

Customer-spec. information

Customer : RENAULT V.I.

Motor

: MIDR 06.20.45 C4

Power KW

: 188.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temo. °C

Tolerance °C

: **←** 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70 Tolerance mm : + 0.50

Check

tolerance mm : + 0.10

Rack travel in mm : 20.25 Tolerance mm : ← 0.75

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : ← 0.75

Start of delivery mark

*NW after s.o.d. : -0.95

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm : 12.70

Tolerance mm : + 0.05

BASIC SETTING

| Rated speed rpm : 700 | † guide sleeve |
|--|--|
| | travel mm : 2.40 |
| Del. quantity | + Tolerance mm : + 0.25 |
| cm3/1000 strokes : 199.0 | + |
| | + Rated speed rpm : 415 |
| Tolerance | + guide sleeve |
| cm3/1000 strokes : +- 1.0 | + travel mm : 3.28 |
| | + Tolerance mm : + 0.25 |
| Check tolerance | + |
| cm3/1000s. : +- 4.0 | + Rated speed rpm : 460 |
| | † guide sleeve |
| Spreed | travel mm : 3.86 |
| | Tolerance mm : + 0.25 |
| Tolerance | + |
| cm3/1000 strokes : 5.0 | + Rated speed rpm : 1460 |
| | † guide sleeve |
| Check tolerance | travel mm : 11.50 |
| cm3/1000s. : 9.0 | + Tolerance mm : + 0.50 |
| | + |
| | |
| | + GUIDE SLEEVE POSITION |
| Rated speed rpm : 300 | † |
| Dools + 3 7 20 | T |
| Rack travel in mm : -7.20 Tolerance mm : + 0.10 | + control lever |
| | position degree : - 1 |
| Del. quantity cm3/1000 strokes : 31.0 | Rated speed rpm : 1230 |
| | 7 Days days at 30 mg / 11 70 |
| Tolerance cm3/1000 strokes : +- 2.0 | Rack travel in mm: 11.70 |
| | + Tolerance mm : +- 2.00 |
| Check tolerance cm3/1000s. : +- 5.0 | T . |
| | FULL LOAD DELIVERY AT FULL LOAD STOP |
| | |
| Spreed | T FOLL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | + |
| Tolerance cm3/1000 strokes : 8.0 | Rated speed rpm : 700 |
| Tolerance cm3/1000 strokes : 8.0 Check tolerance | Rated speed rpm : 700 Aneroid pressure |
| Tolerance cm3/1000 strokes : 8.0 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 |
| Tolerance cm3/1000 strokes : 8.0 Check tolerance | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity |
| Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000S.: 12.0 (B) SETTING OF INJECTION PUMP | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance |
| Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : +- 1.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000S.: 12.0 (B) SETTING OF INJECTION PUMP | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000S.: 12.0 (B) SETTING OF INJECTION PUMP | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1140 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000S.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1140 guide sleeve | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1140 guide sleeve travel mm : 8.49 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000S.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1140 guide sleeve | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1140 guide sleeve travel mm : 8.49 Tolerance mm : + 0.25 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1140 guide sleeve travel mm: 8.49 Tolerance mm: + 0.25 Rated speed rpm: 300 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1140 guide sleeve travel mm : 8.49 Tolerance mm : + 0.25 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1140 guide sleeve travel mm : 8.49 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1140 guide sleeve travel mm: 8.49 Tolerance mm: + 0.25 Rated speed rpm: 300 guide sleeve travel mm: 1.33 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000s strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1140 guide sleeve travel mm : 8.49 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.33 Tolerance mm : + 0.25 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000s strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 302.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1140 guide sleeve travel mm: 8.49 Tolerance mm: + 0.25 Rated speed rpm: 300 guide sleeve travel mm: 1.33 Tolerance mm: + 0.25 Rated speed rpm: 754 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000s strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1140 guide sleeve travel mm: 8.49 Tolerance mm: + 0.25 Rated speed rpm: 300 guide sleeve travel mm: 1.33 Tolerance mm: + 0.25 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000s strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 302.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1140 guide sleeve travel mm: 8.49 Tolerance mm: + 0.25 Rated speed rpm: 300 guide sleeve travel mm: 1.33 Tolerance mm: + 0.25 Rated speed rpm: 754 guide sleeve | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 302.0 tolerance degree : + 4.0 |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1140 guide sleeve travel mm: 8.49 Tolerance mm: + 0.25 Rated speed rpm: 300 guide sleeve travel mm: 1.33 Tolerance mm: + 0.25 Rated speed rpm: 754 guide sleeve travel mm: 754 guide sleeve travel mm: 6.10 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 302.0 tolerance degree : + 4.0 RATED SPEED |
| Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1140 guide sleeve travel mm: 8.49 Tolerance mm: + 0.25 Rated speed rpm: 300 guide sleeve travel mm: 1.33 Tolerance mm: + 0.25 Rated speed rpm: 754 guide sleeve travel mm: 754 guide sleeve travel mm: 6.10 | Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 199.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 302.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00 |

rack travel mm : -8.70
Rated speed rpm : 1295
Tolerance 1/min : + 15

rack travel mm : -12.20 Tolerance mm : +- 0.50 Rated speed rpm : 1400

LOW IDLE

control lever position degree : 266.0 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300 reck travel mm : -7.20 Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : < -4.80

Rated speed rpm : 370

TORQUE CONTROL
Rated speed rpm : 700

Rated speed rpm : 1050
Tolerance man : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 Pressure hPa : 1000

Rated speed rpm : 500
Pressure hPa : rack travel mm : -1.20
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 140
rack travel mm : -0.80
Tolerance mm : + 0.15

Pressure hPa : 200 rack travel nm : -0.35 Tolerance nm : +- 0.05

Start interlock

Rated speed rpm :> 100 Rated speed rpm :< 220

Check

speed 1/min : > 80 Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1000 Rated speed rpm : 1050 Del. quantity

cm3/1000 strokes : 201.0

Tolerance cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 165.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes :

cm3/1000 strokes : 150.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 300

G28

| Rack travel in mm Tolerance mm | : | + | -7.20 0.10 |
|--|---|----|---------------|
| Del. quantity cm3/1000 strokes | : | | 31.0 |
| Tolerance cm3/1000 strokes Check tolerance | : | +- | 2.0 |
| cm3/1000s. Spreed | : | +- | 5 .0 |
| Tolerance cm3/1000 strokes | : | | 8.0 |
| Check tolerance cm3/1000s. | : | | 12.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 19.12.97

Test oil

: ISO 4113

Combination No. : 0 402 846 081

Injection pump

Pump designation : PE6P120A320RS8054

EP type number : 0 412 826 039

Governor

Governmen design. : RQV300...950FA1355k

Governer no.

: 0 421 815 962

Cust. part No. : 11127026

: -P04 v.12.97

Customer-spec. information

Customer : VCE

Motor

: TD122KLE

Power KW

: 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150
Tolerance l/h : + 20.0

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

H02

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x Length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm

: +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 11.00

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW

: +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW

: +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm :

950

| | 1 |
|--|--|
| Rack travel in mm : 11.70 | Rated speed rpm : 500 |
| Tolerance mm : + 0.05 | + guide sleeve |
| 0.09 | travel mm : 4.00 |
| Del. quantity | Tolerance mm : + 0.25 |
| cm3/1000 strokes : 260.0 | T Total arice with . T 0.23 |
| CHEST TUDO SCHOKES: 200.0 | 1200 |
| Talana and a same and | + Rated speed rpm : 1280 |
| Tolerance | + guide sleeve |
| cm3/1000 strokes : +- 1.0 | † travel mm : 13.50 |
| | + Tolerance mm : + 0.50 |
| Check tolerance | + |
| cm3/1000s. : +- 4.0 | |
| | → GUIDE SLEEVE POSITION |
| Spreed | 1 |
| | 1 |
| Tolerance | + control lever |
| cm3/1000 strokes : 8.0 | position degree : - 1 |
| CHD/ 1000 321 0/C5 . 0.0 | |
| Charl. Antonio | Rated speed rpm : 1130 |
| Check tolerance | T grad a soul factor |
| cm3/1000s. : 11.0 | + Rack travel in mm : 11.52 |
| | † Tolerance mm : + 1.30 |
| | † |
| | + |
| Rated speed rpm : 300 | + FULL LOAD DELIVERY AT FULL LOAD STOP |
| | + |
| Rack travel in mm: 7.00 | + Raited speed rpm : 950 |
| Tolerance mm : + 0.10 | Aneroid pressure |
| Del. quantity | + hPa : 1500 |
| cm3/1000 strokes : 80.0 | + Del. quantity |
| Tolerance | - cm3/1000 strokes : 260.0 |
| cm3/1000 strokes : + 3.0 | + Toterance |
| Check tolerance | + cm3/1000 strokes : +- 1.0 |
| | |
| cm3/1000s. : + 6.0 | + Check tolerance |
| Spreed | + cm3/1000s. : +- 4.0 |
| Tolerance | + Spreed |
| cm3/1000 strokes : 5.0 | + Tolerance |
| Check tolerance | + cm3/1000 strokes : 8.0 |
| cm3/1000s. : 8.0 | + Check tolerance |
| | + cm3/1000s. : 11.0 |
| | 1 |
| (B) SETTING OF INJECTION PUMP | 1 |
| WITH GOVERNOR | |
| | + CONTROL LEVER |
| | |
| GUIDE SLEEVE TRAVEL | - control lever |
| CAINE OFFERE HAVEE | |
| Rated speed rpm : 1037 | , , |
| The state of the s | tolerance degree : + 4.0 |
| guide sleeve | T |
| travel mm : 9.86 | + control lever |
| Tolerance mm : + 0.15 | + position degree : 117.0 |
| | tolerance degree : + 4.0 |
| Rated speed rpm : 300 | † |
| guide sleeve | + RATED SPEED |
| travel mm : 1.61 | + rack travel mm : 10.70 |
| Tolerance mm : + 0.20 | Rated speed rpm : 985 |
| | + Tolerance 1/min : + 5 |
| Rated speed rpm : 773 | - |
| guide sleeve | rack travel mm : 4.00 |
| travel mm : 6.81 | Rated speed rpm : 1080 |
| | |
| Tolerance mm : +- 0.25 | + lolerance 1/min : +- 15 |
| | |

| rack travel mm Tolerance mm Rated speed rpm | : ← 0.50 |
|--|------------------------------|
| LOW IDLE | |
| control lever position degree tolerance degree | : 70.0 : ← 4.0 |
| control lever position degree tolerance degree | : 17.0 : + 4.0 |
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 200 |
| CRT mm min. | : > 9.00 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 7.00 : + 0.10 |
| Rated speed rpm | : 400 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 950 : 11.70 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 800 : 12.20 : + 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | : 850 : 11.90 : ← 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | : 500 : 11.10 : + 0.20 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa | : 800 : 1500 |

| rack travel mm Tolerance mm | : 12.20 : + 0.10 |
|---|------------------------------------|
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 800 : - : 9.00 : ← 0.20 |
| MEASUREMENT | |
| Rated speed rpm | : 800 |
| Pressure hPa rack travel mm Tolerance mm | : 660 : 2.80 : + 0.20 |
| Pressure hPa rack travel man Tolerance man | : 250 : 0.25 : +- 0.05 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure | : - |
| Rated speed rpm Del. quantity | : 800 |
| cm3/1000 strokes Tolerance | : 300.0 |
| cm3/1000 strokes Check tolerance | : +- 4.0 |
| cm3/1000s. | : +- 8.0 |
| rack travel mm Tolerance mm | : 11.90 : + 0.10 |
| Aneroid pressure | |
| hPa Rated speed rpm | 500 |
| Del. quantity cm3/1000 strokes | : 220.0 |
| Tolerance cm3/1000 strokes | : + 1.0 |
| Check tolerance cm3/1000S. | : + 4.0 |
| STARTING FUEL DEL | IVERY |
| Rated speed rpm | : 100 |
| rack travel mm | : 9.00 |

Rated speed rpm : 100 rack travel mm : 9.00 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 165.0

H04

Tolerance cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 300 Rack travel in mm : 7.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.12.97 Test oil : ISO 4113

Combination No. : 0 402 846 301

Injection pump

Pump designation : PE6P120A320RS8508 EP type number : 0 412 826 201

Governor

Governer design. : RQV275...1000PA1099K

Governer no. : 0 421 815 983

Cust. part No. : 1287579/4

Customer-spec. information : DAF Customer : WS 315 M Motor

Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 180
Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.35
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 13.35

Tolerance mm : \leftarrow 0.05

| | ∔ guide sleeve |
|--|---|
| Del. quantity | travel nm : 2.27 |
| cm3/1000 strokes : 321.5 | + Tolerance rem : + 0.25 |
| | |
| Tolerance | + Rated speed rpm : 334 |
| cm3/1000 strokes : + 1.0 | + guide sleeve |
| | travel mm : 3.08 |
| Check tolerance | + Tolerance mm : + 0.25 |
| cm3/1000s. : +- 5.0 | + |
| | + Rated speed rpm : 400 |
| Spreed | + guide sleeve |
| · | + travel mm : 3.92 |
| Tolerance | + Tolerance mm : + 0.25 |
| cm3/1000 strokes : 6.0 | + |
| <u></u> | + Rated speed rpm : 1310 |
| Check tolerance | + guide sleeve |
| cm3/1000s. : 12.0 | + travel mm : 13.50 |
| | + Tolerance mm : + 0.50 |
| | + |
| | + |
| Rated speed rpm : 275 | + GUIDE SLEEVE POSITION |
| | + |
| Rack travel in mm : 5.80 | + |
| Tolerance mm : + 0.10 | + control lever |
| Del. quantity | + position degree : -1 |
| cm3/1000 strokes : 13.0 | + Rated speed rpm : 1130 |
| Tolerance | + |
| cm3/1000 strokes : + 3.0 | + Rack travel in mm: 12.70 |
| Check tolerance | + Tolerance mm : ← 1.30 |
| cm3/1000s. : +- 6.0 | + |
| Spreed | + |
| Tolerance | + FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000 strokes : 8.0 | + |
| Check tolerance | + Rated speed rpm : 980 |
| cm3/1000s. : 13.0 | + Aneroid pressure |
| | + hPa : - |
| | + Del. quantity |
| (B) SETTING OF INJECTION PUMP | + cm3/1000 strokes : 321.5 |
| WITH GOVERNOR | + Tolerance |
| | + cm3/1000 strokes : +- 1.0 |
| | + Check tolerance |
| GUIDE SLEEVE TRAVEL | + cm3/1000s. : +- 5.0 |
| | + Spreed |
| Rated speed rpm : 1050 | + Tolerance |
| guide sleeve | + cm3/1000 strokes : 6.0 |
| travel mm : 9.89 | + Check tolerance |
| Tolerance mm : + 0.20 | + cm3/1000s. : 12.0 |
| | |
| | + |
| Rated speed rpm : 275 | + |
| guide sleeve | <u> </u> |
| guide sleeve : 2.14 | CONTROL LEVER |
| guide sleeve | + |
| guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 | + control lever |
| guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Ratted speed rpm : 692 | control lever position degree : 120.0 |
| guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Rated speed rpm : 692 guide sleeve | + control lever |
| guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Rated speed rpm : 692 guide sleeve travel mm : 6.45 | control lever position degree : 120.0 tolerance degree : + 4.0 |
| guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Rated speed rpm : 692 guide sleeve | control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED |
| guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Rated speed rpm : 692 guide sleeve travel mm : 6.45 Tolerance mm : + 0.25 | control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mmm : 12.35 |
| guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Rated speed rpm : 692 guide sleeve travel mm : 6.45 | control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.35 Rated speed rpm : 1037 |
| guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Rated speed rpm : 692 guide sleeve travel mm : 6.45 Tolerance mm : + 0.25 | control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mmm : 12.35 |

| rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm | : 0.70 : + 0.70 |
|---|------------------------------|
| LOW IDLE | |
| control lever position degree tolerance degree | : 76.0 : + 4.0 |
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 175 |
| CRT mm min. | : > 8.00 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 275 : 5.80 : + 0.10 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 2.00 : 405 : + 20 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 980 : 13.35 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 750 : 12.75 : + 0.05 |
| Rated speed rpm rack travel man Tolerance mm | |
| Rated speed rpm rack travel mm Tolerance mm | : 500 : 12.00 : ← 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | : 400 : 11.95 : + 0.10 |

| ANEROID/ALTITUDE COMPENSATOR TEST | |
|---|--|
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mma | : 980 : 1500 : 13.35 : ← 0.05 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 980 : - : 8.90 : + 0.10 |
| MEASUREMENT | |
| Rated speed rpm | : 980 |
| Pressure hPa rack travel mm Tolerance mm | : 750 : 12.25 : ← 0.05 |
| | : 420 : 10.00 |
| Pressure hPa rack travel mm Tolerance mm FUEL DELIVERY CHA | : + 0.10 RACTERISTICS |
| rack travel mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm | RACTERISTICS |
| rack travel mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes | RACTERISTICS : - : 750 |
| rack travel mm Tolerance mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | RACTERISTICS : - : 750 |
| rack travel mm Tolerance mm Tolerance mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | RACTERISTICS : - : 750 : 316.0 |
| rack travel mm Tolerance mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | RACTERISTICS : - : 750 : 316.0 : + 2.0 |
| rack travel mm Tolerance mm Tolerance mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | : : 750 : 316.0 : + 2.0 : + 6.0 |
| rack travel mm Tolerance mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance | : 750 : 316.0 : + 2.0 : + 6.0 : 8.0 |
| rack travel mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. | RACTERISTICS : |

Tolerance cm3/1000 strokes : \(\to \) 1.0 Check tolerance cm3/1000s. : \(\to \) 5.0

LOW IDLE

Rated speed rpm : 275 Rack travel in mm : 5.80 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s.6.0 : +-Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 13.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.12.97 Test oil : ISO 4113

Combination No. : 0 402 946 011

Injection pump

Pump designation : PES6P120A320RS8028 EP type number : 0 412 926 021

6oyernor

Governer design. : RQV275...1250PA1125K

6overner no. : 0 421 815 981

Cust. part No. : CCEP 5140A 66-205

Customer-spec. information

Customer : RENAULT V.I.

Motor : MIDR 06.02.26L51

Power KW : 132.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 2 417 413 078

Inlet press. ber : 2.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.00 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 11.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.25 Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

ram : 21.00

and maximum rack

travel : 10.00 Difference * CS : 2.25

CRT ZERO POSITION

| Rack travel in man Tolerance man | : 12.60 : + 0.05 |
|--|---------------------|
| BASIC SETTING | |
| Rated speed rpm | : 1250 |
| Del. quantity cm3/1000 strokes | : 170.0 |
| Tolerance cm3/1000 strokes | : + 1.0 |
| Check tolerance cm3/1000s. | : + 4.0 |
| Spreed | |
| Tolerance cm3/1000 strokes | : 5.0 |
| Check tolerance cm3/1000s. | : 9.0 |
| Rated speed rpm | : 325 |
| Rack travel in mm Tolerance mm Del. quantity | : -6.60 : + 0.10 |
| cm3/1000 strokes Tolerance | : 41.0 |
| cm3/1000 strokes Check tolerance | : ← 2.0 |
| cm3/1000s. Spreed | : ← 6.0 |
| Tolerance cm3/1000 strokes | : 8.0 |
| Check tolerance cm3/1000s. | : 12.0 |
| (B) SETTING OF IN WITH GOVERNOR | VECTION PUMP |
| GUIDE SLEEVE TRAV | EL |
| Rated speed rpm guide sleeve | : 1355 |
| travel mm Tolerance mm | : 10.10 : + 0.10 |
| Rated speed rpm guide sleeve | : 275 |
| travel mm | : 1.00 |

| Tolerance mm | : ← 0.15 | |
|--|---------------------|--|
| Rated speed rpm guide sleeve | : 929 | |
| travel mm Tolerance mm | : 6.80 : +- 0.20 | |
| Rated speed rpm guide sleeve | : 390 | |
| travel mm Tolerance mm | : 2.39 : + 0.20 | |
| Rated speed rpm guide sleeve | : 440 | |
| travel mm Tolerance mm | : 3.01 : + 0.20 | |
| Rated speed rpm guide sleeve travel mm Tolerance mm | : 550 | |
| | : 3.92 : + 0.20 | |
| Rated speed rpm guide sleeve travel mm Tolerance mm | : 1650 | |
| | : 13.50 : ← 0.50 | |
| GUIDE SLEEVE POSITION | | |
| control lever | | |

position degree : - 1
Rated speed rpm : 1430

Rack travel in mm : 10.90 Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250 Aneroid pressure hPa 1600 Del. quantity cm3/1000 strokes : 170.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance 9.0 cm3/1000s.

CONTROL LEVER

| control lever | | | Pressure hPa Tolerance mm | : 1600 : +- 0.10 |
|-------------------------------------|--------------------|---------------------------------------|--|----------------------|
| position degree | : 296.0 | Ţ | TOTER GITTE HER | 6.10 |
| tolerance degree | : ← 4.0 | | Rated speed rpm | |
| DATES ODEES | | † ! | Pressure hPa | : -4.30 |
| RATED SPEED | · _1 00 | † ! | rack travel mm Tolerance mm | : -4.30 : +- 0.20 |
| rack travel mm Rated speed rpm | : 1330 | I | ioteranice insi | 0.20 |
| Tolerance 1/min | : + 15 | ļ , | MEASUREMENT | |
| | | + | | |
| rack travel mm | : -8.60 | † ! | Rated seed rpm | : 1250 |
| Rated speed rpm Tolerance 1/min | : 1470 : + 5 | 1 , | Pressure hPa | : 200 |
| TOCCI GIRCE TANTIT | • ' | I : | rack travel mm | : -3.70 |
| rack travel mm | : -12.10 | + - | Tolerance mm | : + 0.20 |
| Tolerance mm Rated speed rpm | : ← 0.55 | . + | | |
| Rated speed rpm | : 1600 | † ! | Pressure hPa rack travel mm Tolerance mm | : 360 : -2.60 |
| | | † : | rack travel mm Toloppoo | : -2.60 : + 0.05 |
| | | Į | TO CET BLICE THE | 0.05 |
| LOW IDLE | | <u> </u> | Start interlock | |
| LOW IDEL | | Į, | Start miter tock | |
| | | + 1 | Rated speed rpm | : > 175 |
| control lever | 244.0 | + 1 | Rated speed rpm | : < 240 |
| position degree tolerance degree | 244.0 | † , | Charl | |
| toterance degree | 4.0 | | Check speed 1/min | : > 155 |
| Testing: | | | Check | 155 |
| _ | | | speed 1/min | : < 260 |
| Rated speed rpm | : 325 | + | | |
| rack travel mm Tolerance mm | : -6.60 | † ; | FUEL DELIVERY CHA | DACTEDICTICS |
| TO LET ON ILLE THIN | 0.10 | Į, | FUEL DELIVERT CHA | MACIERIS I I CO |
| Rated speed rpm | : 200 | + | | |
| 007 | | | Aneroid pressure | 4/00 |
| CRT mm max. | : < -5.20 | 1 : | hPa Rated speed rpm | : 1600 : 650 |
| Rated speed rpm | : 360 | Į | Del. quantity | . 650 |
| Marca opeca (pa | . 333 | + | cm3/1000 strokes | : 182.0 |
| | | + · | Tolerance | |
| TORQUE CONTROL | 4050 | | cm3/1000 strokes | : ← 3.0 |
| Rated speed rpm | : 1250 | | Check tolerance | |
| Rated speed rpm | : 650 | Ĭ' | cm3/1000s. | : +- 6.0 |
| rack travel mm | | 1 | | |
| rack travel mm Tolerance mm | : ← 0.10 | + , | rack travel mm | : -1.70 |
| | | + 7 | Tolerance mm | : ← 0.25 |
| Rated speed rpm | 350 | † | | |
| rack travel mm Tolerance mm | | Ī | Aneroid pressure | |
| TOTEL GLICE MIN | 0.2 | | hPa | : - |
| | | · · · · · · · · · · · · · · · · · · · | Rated speed rpm | 500 |
| ANEROID/ALTITUDE | | + 1 | Del. quantity | |
| COMPENSATOR TEST | | | cm3/1000 strokes | : 116.0 |
| | | | Tolerance cm3/1000 strokes | 10 |
| SETTING | | | Check tolerance | 1.0 |
| 00114110 | | | cm3/1000s. | : +- 4.0 |
| Rated speed rpm | : 1250 | + | | |

H12

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : + 14.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : -6.60 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 41.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : \leftarrow 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.12.97 : ISO 4113

Combination No. : 0 402 946 013

Injection pump

Pump designation : PES6P120A320RS8028 EP type number : 0 412 926 021

Governor Governer design. : RQV275...1250PA1189K

Governer no.

: 0 421 815 974

Cust. part No. : CCEP 5146A 66-220

Customer-spec. information

Customer : RENAULT V.I. : MIDR 06.02.26Y41 Motor

Power KW : 184.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

r: 26.0: $\leftarrow 1.0$ Test pressure bar : Tolerance bar

Prestroke mm 5.00 : +- 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 11.00 Tolerance m : \leftarrow 0.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : + - 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.25 : +- 0.50

Tolerance

Check

tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00 and maximum rack 11.00 travel

Difference * CS : 2.25

| | + Rated speed rpm : 275 |
|--|--|
| | - guide sleeve |
| CRT ZERO POSITION | travel mm : 1.10 |
| | Tolerance mm : +- 0.25 |
| Rack travel in mm: 14.40 | Rated speed rpm : 912 |
| Tolerance mm : + 0.05 | guide sleeve |
| Total and the state of the stat | travel ma : 6.79 |
| | - + Tolerance mm : + 0.25 |
| BASIC SETTING | + |
| | + Rated speed rpm : 412 |
| Rated speed rpm : 1250 | + guide sleeve |
| | + travel mm : 2.53 |
| Del. quantity | Tolerance mm : +- 0.25 |
| cm3/1000 strokes : 276.0 | 1 |
| 3.0 00 | + Rated speed rpm : 462 |
| Tolerance | guide sleeve |
| cm3/1000 strokes : + 1.0 | travel mn : 3.16 |
| CHO/ 1000 SELONES . F- 1.0 | Talanama : 3.10 |
| | + Tolerance mm : + 0.25 |
| Check tolerance | † <u></u> |
| cm3/1000s. : +- 4.0 | + Rated speed rpm : 550 |
| | + guide sleeve |
| Spreed | + travel mm : 3.97 |
| · | Tolerance mm : +- 0.25 |
| Tolerance | 1 |
| cm3/1000 strokes : 5.0 | Rated speed rpm : 1630 |
| 0457 1005 SCI OKCS . 5.5 | guide steeve |
| Check tolerance | travel mm : 13.50 |
| | |
| cm3/1000s. : 9.0 | + Tolerance mm : +- 0.50 |
| | |
| | CUTAC OF EMIC BOOTTON |
| ~ | + GUIDE SLEEVE POSITION |
| Rated speed rpm : 275 | † |
| | † |
| Rack travel in mm: -7.60 | + control lever |
| Tolerance mm : ← 0.10 | <pre>position degree : - 1</pre> |
| Del. quantity | + Rated speed rpm : 1420 |
| cm3/1000 strokes : 47.0 | ∔ |
| Tolerance | + Rack travel in mm: 13.50 |
| cm3/1000 strokes : + 2.0 | + Tolerance mm : + 1.50 |
| Check tolerance | |
| cm3/1000s. : + 6.0 | |
| Spreed | FULL LOAD DELIVERY AT FULL LOAD STOP |
| | T FOLL LOAD DELIVERY AT FOLL LOAD STOP |
| Tolerance | 7 0-4-4 4050 |
| cm3/1000 strokes : 8.0 | + Rated speed rpm : 1250 |
| Check tolerance | + Aneroid pressure |
| cm3/1000s. : 12.0 | + hPa : 1600 |
| | + Del. quantity |
| | + cm3/1000 strokes : 276.0 |
| (B) SETTING OF INJECTION PUMP | † Tolerance |
| WITH GOVERNOR | + cm3/1000 strokes : +- 1.0 |
| · - · · · · · · · · - · · | + Check tolerance |
| | T CHECK LUCE COINCE |
| | |
| CITIE SI FEVE TRAVEI | - + cm3/1000s. : +- 4.0 |
| GUIDE SLEEVE TRAVEL | - + cm3/1000s. : +- 4.0 + Spreed |
| | - + cm3/1000S. : +- 4.0 - Spreed - Tolerance |
| Rated speed rpm : 1332 | - + cm3/1000s. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 5.0 |
| Rated speed rpm : 1332 guide sleeve | - cm3/1000s. : + 4.0 - spreed - Tolerance - cm3/1000 strokes : 5.0 - Check tolerance |
| Rated speed rpm : 1332 guide sleeve travel mm : 10.07 | - + cm3/1000s. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 5.0 |
| Rated speed rpm : 1332 guide sleeve | - cm3/1000s. : + 4.0 - spreed - Tolerance - cm3/1000 strokes : 5.0 - Check tolerance |

| CONTROL LEVER | | Rated speed rpm Pressure hPa | : 1250 : 16 0 0 |
|--------------------------------------|--------------------|---------------------------------------|---------------------------|
| control lever | | + Tolerance mm | : +- 0.10 |
| position degree | : 303.0 | + | |
| tolerance degree | : ← 4.0 | + Rated speed rpm | |
| DATEN COFFN | | + Pressure hPa + rack travel mm | : - |
| RATED SPEED | . 4.00 | | |
| rack travel mm | | † Tolerance mm | : ← 0.20 |
| Rated speed rpm Tolerance 1/min | : + 15 | # MEASUREMENT | |
| TO CET CATICE TO MITTI | 13 | T | |
| rack travel mm | : -10.40 | Rated speed rpm | : 1250 |
| Rated speed rpm | : 1480 | + | |
| Tolerance 1/min | : ← 5 | + Pressure hPa | |
| | | rack travel mm | : -3.60 |
| rack travel mm | | + Tolerance mm | : +- 0.20 |
| Tolerance mm | | † | |
| Rated speed rpm | : 1600 | Pressure hPa | : 480 |
| | | rack travel mm | |
| | | Tolerance mm | : +- 0.05 |
| LOW IDLE | | Start interlock | |
| | | + | |
| | | + Rated speed rpm | : > 175 |
| control lever | | + Rated speed rpm | : < 240 |
| position degree | | + | |
| tolerance degr e e | : ← 4.0 | + Check | |
| e | | + speed 1/min | : > 155 |
| Testing: | | + Check | . 2/2 |
| Rated speed rpm | . 275 | speed 1/min | : < 260 |
| rack travel man | 7.40 | I | |
| Tolerance mm | · + 0.10 | FUEL DELIVERY CHA | PACTERISTICS |
| | | + | MACIENTO 1100 |
| Rated speed rpm | : 200 | + | |
| | | + Aneroid pressure | |
| CRT mm max. | : < -6.60 | + hPa | : 1600 |
| D. A. I. | 700 | + Rated speed rpm | : 300 |
| Rated speed rpm | : 380 | + Del. quantity | 207.0 |
| | | - cm3/1000 strokes - Tolerance | : 287.0 |
| TORQUE CONTROL | | + cm3/1000 strokes | : +- 3.0 |
| Rated speed rom | : 1250 | Check tolerance | . +- 3.0 |
| nated speed (bill | . 120 | - cm3/1000s. | : +- 6.0 |
| Rated speed rpm | : 800 | - CINS7 10005. | . , 0.0 |
| rack travel mm | : -0.75 | <u> </u> | |
| Tolerance mm | : + 0.10 | + rack travel mm | : -4.10 |
| | | + Tolerance mm | : ← 0.25 |
| Rated speed rpm | : 350 | + | |
| rack travel mm | | + | |
| Tolerance mm | : + 0.25 | + Aneroid pressure | |
| | | + hPa | : - |
| | | + Rated speed rpm | : 1000 |
| **** | | | . ,555 |
| | | + Del. quantity | |
| ANEROID/ALTITUDE COMPENSATOR TEST | | + Del. quantity + cm3/1000 strokes | |
| | | + Del. quantity | : 181.0 |

SETTING

Check tolerance : **←** 4.0 cm3/1000s.

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 95.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm: -7.60 Tolerance mm : + 0.10 Del. quantity

cm3/1000 strokes :

Tolerance 2.0

47.0

cm3/1000 strokes : +-

Check tolerance : +-6.0

cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23.12.97 Edition Test oil : ISO 4113

Combination No. : 0 402 946 030

Injection pump

Pump designation : PES6P120A720RS8049

EP type number : 0 412 926 031

Governor

: RQ750PA1299 Governer design. Governer no. : 0 421 801 810

Cust. part No. : 1397781

Customer-spec. information Customer : SCANIA : DSC1158A Motor

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 her Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : \leftarrow 1.0

Prestroke mm 3.65 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 14.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: + 0.30Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery blocking

Tolerance : **←** 0.10 Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

| Rated speed rpm : 700 | Check tolerance : 12.0 |
|---|--|
| Rack travel in mm: 13.15 Tolerance mm: + 0.05 | • |
| Del. quantity | - CONTROL LEVER |
| cm3/1000 strokes : 363.0 | control lever |
| Tolerance cm3/1000 strokes : + 1.0 | tolerance degree : +- 4.0 - control lever |
| Check tolerance cm3/1000s. : + 11.0 | - position degree : 83.0 - tolerance degree : +- 4.0 |
| Spreed | - ASSEMBLY GOVERNOR SETTING |
| Tolerance cm3/1000 strokes : 8.0 | - - Rated speed rpm : 750 - rack travel mm : 12.10 |
| Check tolerance cm3/1000s. : 12.0 | - Rated speed rpm : 778 - Tolerance 1/min : +- 4 |
| | rack travel mm : 4.00 |
| + | - rack travel mm : 0.50 |
| Rack travel in mm: 3.00 | Tolerance mm : +- 0.50 |
| Tolerance may : \leftarrow 0.20 | - Rated speed rpm : 850 |
| Del. quantity | • |
| cm3/1000 strokes : 30.0 | • 754 |
| Tolerance | Rated speed rpm : 751 |
| cm3/1000 strokes : + 4.0 | - rack travel mm : 12.10 |
| Check tolerance + 6.0 + | Poted aroud man . 770 |
| cm3/1000s. : +- 6.0 +- Spread | - Rated speed rpm : 779 - Tolerance 1/min : +- 4 |
| Tolerance | - rack travel mm : 4.00 |
| cm3/1000 strokes : 5.0 | rack cravet mm : 4.00 |
| Check tolerance | rack travel mm : 0.50 |
| cm3/1000s. : 9.0 | Tolerance mm : +- 0.50 |
| 10000 | Rated speed rpm : 850 |
| 1 | |
| (B) SETTING OF INJECTION PUMP | • |
| WITH GOVERNOR | - Rated speed rpm : 752 |
| + | Rated speed rpm : 752 rack travel mm : 12.10 |
| + | • |
| | - Rated speed rpm : 780 |
| FULL LOAD DELIVERY AT FULL LOAD STOP + | Tolerance 1/min : +- 4 |
| | rack travel mm : 4.00 |
| Rated speed rpm : 700 | |
| Aneroid pressure | rack travel mm : 0.50 |
| hPa : 1500 | Tolerance mm : + 0.50 |
| Del. quantity + cm3/1000 strokes : 363.0 + | Rated speed rpm : 850 |
| Tolerance | • |
| cm3/1000 strokes : + 1.0 | Rated speed rpm : 753 |
| Check tolerance | rack travel mm : 12.10 |
| cm3/1000s. : + 11.0 | |
| Spreed | - Rated speed rpm : 781 |
| Tolerance | Tolerance 1/min : +- 4 |
| cm3/1000 strokes : 8.0 | rack travel mm : 4.00 |
| | |

Rated speed rpm : 754 rack travel mm : 12.10

Rated speed rpm : 782
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 755 rack travel mm : 12.10

Rated speed rpm : 783
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 13.15 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.15
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 7.80
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 230 rack travel mm : 8.45 Tolerance mm : + 0.25

Pressure hPa : 580 rack travel mm : 10.45 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/100Cs. : +- 7.6

STARTING FUEL DELIVERY

Rated speed rpm : 100

End of test specification sheet

H20

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.12.97 Test oil : ISO 4113

Combination No. : 0 402 946 031

Injection pump

Pump designation : PES6P120A320RS8050 EP type number : 0 412 926 032

Governor

Governer design. : RQ250/1000PA1342 Governer no. : 0 421 801 822

Cust. part No. : 1388694

Customer spec. information Customer : SCANIA Motor : DSI 9E01 Power KW : 170.0

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 2 417 413 095

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 80 Tolerance l/h : + 10.0

Test mozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.00 Tolerance mm : + 0.05 Check

uneck

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

| Rack travel in mm: 12.30 | Rated speed rpm : 410 |
|--|--|
| Tolerance non : + 0.05 | + guide sleeve |
| rotti care in o.u. | travel mm : 3.50 |
| No. mantitu | |
| Del. quantity cm3/1 000 strokes : 240.0 | † Tolerance man : + 0.10 |
| CHO/TODO Strokes : 240.0 | 7 0-4-4 570 |
| Talanasa | Rated speed rpm : 530 |
| Tolerance | + guide sleeve |
| cm3/1000 strokes : + 1.0 | travel mm : 4.50 |
| | Tolerance mm : + 0.10 |
| Check tolerance | † |
| $cm3/1000s.$: \leftarrow 7.0 | + Rated speed rpm : 1670 |
| | + guide sleeve |
| Spreed | † travel mm : 11.50 |
| | → Tolerance mm : → 0.50 |
| Tolerance | + |
| cm3/1000 strokes : 8.0 | |
| | + GUIDE SLEEVE POSITION |
| Check tolerance | + |
| cm3/1000s. : 12.0 | + |
| | + control lever |
| | + position degree : 108 |
| | + Rated speed rpm : 600 |
| Reted speed rpm : 285 | + |
| ······································ | Rack travel in mm: 16.00 |
| Rack travel in mm: 5.20 | + Tolerance mm : + 0.60 |
| Tolerance mm : +- 0.10 | |
| Del. quantity | |
| cm3/1000 strokes : 30.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | T FORE EURO DELIVERY AT FORE EURO STOP |
| cm3/1000 strokes : +- 3.0 | Rated speed rpm : 700 |
| | The state of the s |
| Check tolerance | + Aneroid pressure |
| cm3/1000s. : + 6.0 | + hPa : 1500 |
| Spreed | † Del. quantity |
| | |
| Tolerance | + cm3/1000 strokes : 240.0 |
| cm3/1000 strokes : 4.0 | + Tolerance |
| cm3/1000 strokes : 4.0 Check tolerance | Tolerance + cm3/1000 strokes : + 1.0 |
| cm3/1000 strokes : 4.0 | Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance |
| cm3/1000 strokes : 4.0 Check tolerance | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 |
| cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000S.: 8.0 (B) SETTING OF INJECTION PUMP | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance |
| cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000S.: 8.0 (B) SETTING OF INJECTION PUMP | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance |
| cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000S.: 8.0 (B) SETTING OF INJECTION PUMP | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance |
| cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance |
| cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve travel mm : 4.72 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve travel mm : 4.72 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever |
| Cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve travel mm : 4.72 Tolerance mm : + 0.15 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 43.0 |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve travel mm : 4.72 Tolerance mm : + 0.15 Rated speed rpm : 285 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 43.0 |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve travel mm : 4.72 Tolerance mm : +- 0.15 Rated speed rpm : 285 guide sleeve | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 43.0 tolerance degree : + 4.0 |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve travel mm : 4.72 Tolerance mm : +- 0.15 Rated speed rpm : 285 guide sleeve travel mm : 2.17 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 43.0 tolerance degree : + 4.0 control lever |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve travel mm : 4.72 Tolerance mm : +- 0.15 Rated speed rpm : 285 guide sleeve | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 43.0 tolerance degree : + 4.0 control lever position degree : 105.0 |
| Cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1061 guide sleeve travel mm: 4.72 Tolerance mm: : 4.72 Tolerance mm: 285 guide sleeve travel mm: : 2.17 Tolerance mm: : + 0.20 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 43.0 tolerance degree : + 4.0 control lever |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve travel mm : 4.72 Tolerance mm : 4.72 Tolerance mm : 285 guide sleeve travel mm : 285 guide sleeve travel mm : 2.17 Tolerance mm : + 0.20 Rated speed rpm : 1000 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 43.0 tolerance degree : + 4.0 control lever position degree : 105.0 tolerance degree : + 4.0 |
| Cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve travel mm : 4.72 Tolerance mm : 4.72 Tolerance mm : 285 guide sleeve travel mm : 2.17 Tolerance mm : 4.20 Rated speed rpm : 2.17 Tolerance mm : 4.20 Rated speed rpm : 2.17 Tolerance mm : 4.000 guide sleeve | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 43.0 tolerance degree : + 4.0 control lever position degree : 105.0 tolerance degree : + 4.0 RATED SPEED |
| cm3/1000 strokes: 4.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1061 guide sleeve travel mm : 4.72 Tolerance mm : 4.72 Tolerance mm : 285 guide sleeve travel mm : 285 guide sleeve travel mm : 2.17 Tolerance mm : + 0.20 Rated speed rpm : 1000 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 7.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 43.0 tolerance degree : + 4.0 control lever position degree : 105.0 tolerance degree : + 4.0 |

| Tolerance 1/min Check | : ← 8 |
|--|------------------------------|
| speed 1/min | : ← 10 |
| rack travel mm Rated speed rpm | |
| Tolerance 1/min Check | : ← 15 |
| speed 1/min | : +- 20 |
| rack travel mma Tolerance mma Rated speed rpma | : 0.50 : ← 0.50 : 1350 |
| LOW IDLE | |
| control lever position degree | : 85.0 |
| tolerance degree | : + 4.0 |
| control lever | |
| position degree tolerance degree | : 21.0 : ← 4.0 |
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 150 |
| CRT mm min. | : > 8.00 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 285 : 5.20 : ← 0.10 |
| rack travel mm | : < 2.00 |
| Rated speed rpm Tolerance 1/min | : 390 : + 20 |
| TORQUE CONTROL | |
| Rated speed rpm rack travel mm | : 700 : 12.30 |
| Tolerance mm | · + 0.05 |
| Rated speed rpm | : 1000 |
| rack travel mma Tolerance mm | : 12.30 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |

| Rated speed rpm | : 500 |
|-------------------------------|----------|
| Pressure hPa | : 1500 |
| rack travel mm | : 12.30 |
| Tolerance mm | : + 0.05 |
| Rated speed rpm | : 500 |
| Pressure hPa | : - |
| rack travel mm | : 10.40 |
| Tolerance mm | : + 0.20 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa | : 275 |
| rack travel mm | : 10.90 |
| Tolerance mm | : + 0.15 |
| Pressure hPa | : 425 |
| rack travel mm | : 12.10 |
| Tolerance mm | : ← 0.05 |
| Start interlock | |
| Rated speed rpm | : > 100 |
| Rated speed rpm | : < 170 |
| Check speed 1/min Check | : > 80 |
| speed 1/min | : < 190 |

| Aneroid pressure | : 1500 |
|----------------------------------|----------|
| Rated speed rpm Del. quantity | : 1000 |
| cm3/1000 strokes | : 214.0 |
| Tolerance cm3/1000 strokes | : +- 4.0 |
| Check tolerance cm3/1000s. | : +- 6.0 |
| | |

| Aneroid pressure | | |
|------------------|-----|-------|
| hPa | : | _ |
| Rated speed rpm | : | 500 |
| Del. quantity | | |
| cm3/1000 strokes | : | 210.0 |
| Tolerance | | |
| cm3/1000 strokes | : + | - 1.0 |
| Check tolerance | | |
| cm3/1000s. | : + | - 4.0 |

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity

cm3/1000 strokes : 250.0

Tolerance

cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : + 25.0

LOW IDLE

Rated speed rpm : 285

Rack travel in mm: 5.20
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 30.0
Tolerance
cm3/1000 strokes: + 3.0
Check tolerance

cn3/1900s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 07.01.98 : ISO 4113

Combination No. : 0 402 046 862

Injection pump

Pump designation : PES6P120A320RS3337 EP type number : 0 412 026 770

Governor

Governer design. : RQV300...1250PA1149K

Governer no. : 0 421 815 416

Cust. part No. : CCEP 5141A 66-218

Customer-spec. information

Customer : RENAULT V.I. Motor : MIDR 06-02-26 V4

Power KW

: 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : -- 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : +- 1.5

: 1 680 750 008 Test Lines

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

4.10 Prestroke mm : + 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

*NW after s.o.d. : -0.18 Tolerance : +- 0.50

Check

tolerance $^{\bullet}NW$: +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00 and maximum rack travel : 10.50

Difference * CS : 2.00

CRT ZERO POSITION

| Rack travel in man Tolerance man | : 11.20 : + 0.05 | | |
|--|-------------------------------|--|--|
| BASIC SETTING | | | |
| Rated speed rpm | : 1250 | | |
| Del. quantity cm3/1000 strokes | : 150.0 | | |
| Tolerance cm3/1000 strokes | : + 1.0 | | |
| Check tolerance cm3/1000s. | : + 4.0 | | |
| Spreed | | | |
| Tolerance cm3/1000 strokes | : 5.0 | | |
| Check tolerance cm3/1000s. | : 9.0 | | |
| Rated speed rpm | : 300 | | |
| Rack travel in mm Tolerance mm Del. quantity | : -6.30 : +- 0.10 | | |
| cm3/1000 strokes Tolerance | : 34.0 | | |
| cm3/1000 strokes Check tolerance | : +- 2.0 | | |
| cm3/1000s. Spreed | : + 5.0 | | |
| Tolerance cm3/1000 strokes | : 8.0 | | |
| Check tolerance cm3/1000s. | : 12.0 | | |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | | | |
| GUIDE SLEEVE TRAVEL | | | |
| | | | |
| Rated speed rpm guide sleeve | : 1346 | | |
| Rated speed rpm guide sleeve travel mm Tolerance mm | : 1346 : 10.55 : ← 0.15 | | |
| guide sleeve travel mm | : 10.55 | | |

| Tolerance mm | : +- 0.20 |
|---------------------------------|----------------------|
| oter arte init | |
| Rated speed rpm guide sleeve | : 905 |
| travel mm | : 6.54 |
| Tolerance mm | : ← 0.25 |
| Rated speed rpm | : 381 |
| guide sleeve travel mm | : 2.38 |
| Tolerance mm | : +- 0.25 |
| Rated speed rpm | : 431 |
| guide sleeve travel mm | : 2.98 |
| Tolerance mm | : 2.98 : +- 0.25 |
| Rated speed rpm | : 530 |
| guide sleeve travel mm | : 3.77 |
| Tolerance mm | : +- 0.25 |
| Rated speed rpm | : 1580 |
| guide sleeve | |
| travel mm Tolerance mm | : 13.50 : +- 0.50 |
| overance min | ; - 0,50 |

control lever position degree : - 1 Rated speed rpm : 1380

Rack travel in mm : 10.50 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

1250 Rated speed rpm Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 150.0 Tolerance cm3/1000 strokes : +--1.0 Check tolerance cm3/1000s.4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 9.0

CONTROL LEVER

| control lever position degree tolerance degree | | Rated speed rpm : 1250 Pressure hPa : 1000 Rated speed rpm : 1250 | |
|---|---|---|-----|
| RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min | : 1325 | Pressure hPa : - rack travel mm : -1.90 Tolerance mm : + 0.20 MEASUREMENT | |
| rack travel mm Rated speed rpm Tolerance 1/min | : 1420 | - Rated speed rpm : 1250 | |
| rack travel mm Tolerance mm Rated speed rpm | : ← 0.50 · | Pressure hPa : 160 rack travel mm : -1.30 Tolerance mm : + 0.10 | |
| | | - Pressure hPa : 280 - rack travel mm : -0.25 - Tolerance mm : + 0.05 | |
| LOW IDLE | 1 | Start interlock | ··· |
| control lever position degree tolerance degree | : 244.0 : ← 4.0 | Rated speed rpm : > 175 Rated speed rpm : < 240 | |
| Setting point w/d | out bumper spring | - Check - speed 1/min :> 155 - Check | |
| Rated speed rpm | : 200 | speed 1/min : < 260 | |
| | | | |
| CRT mm min. Testing: | : < −5.20 - | FUEL DELIVERY CHARACTERISTICS | S |
| | : 300 : -6.30 : ← 0.10 | Aneroid pressure hPa : 1000 Rated speed rpm : 850 Del. quantity cm3/1000 strokes : 122.0 Tolerance | 3 |
| Testing: Rated speed rpm rack travel mm Tolerance mm | : 300 : -6.30 : ← 0.10 : 400 | Aneroid pressure hPa : 1000 Rated speed rpm : 850 Del. quantity cm3/1000 strokes : 122.0 | S |
| Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm TORQUE CONTROL | : 300 : -6.30 : + 0.10 : 400 : 1250 : 850 | Aneroid pressure hPa : 1000 Rated speed rpm : 850 Del. quantity cm3/1000 strokes : 122.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance | _ |
| Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm TORQUE CONTROL Rated speed rpm Rated speed rpm Rated speed rpm | : 300 : -6.30 : ← 0.10 : 400 : 1250 : 850 : -1.35 : ← 0.15 : 350 : -1.60 | Aneroid pressure hPa : 1000 Rated speed rpm : 850 Del. quantity cm3/1000 strokes : 122.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 rack travel mm : -1.60 Tolerance mm : + 0.20 Aneroid pressure hPa : - Rated speed rpm : 1250 | _ |
| Testing: Rated speed rpm rack travel mmm Tolerance mmm Rated speed rpm TORQUE CONTROL Rated speed rpm Rated speed rpm rack travel mmm Tolerance mmm Rated speed rpm rack travel mmm Tolerance mmm | : 300 : -6.30 : ← 0.10 : 400 : 1250 : 850 : -1.35 : ← 0.15 : 350 : -1.60 | Aneroid pressure hPa : 1000 Rated speed rpm : 850 Del. quantity cm3/1000 strokes : 122.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 rack travel mm : -1.60 Tolerance mm : + 0.20 Aneroid pressure hPa : - | _ |

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity 108.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: **-6.30** Tolerance mm : **←** 0.10 Del. quantity

cm3/1000 strokes : 34.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance cm3/1000s. 5.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000S. 12.0 :

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 06.01.98 : ISO 4113

Combination No. : 0 402 646 701

Injection pump Pump designation : EP type number

Governor

Governer design. : RQV350...1050PA1367

Governer no. : 0 421 814 205

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : 0M401 LA Power KW : 213.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. L/h 120 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 : +- 0.05 Tolerance mm Check

tolerance mn: \leftarrow 0.10

Rack travel in mm: 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 6-3-5-2-4-

: 0-60-120-180-240 Phasing : -300

Tolerance : +- 0.50

Check

tolerance 'NW : + - 0.75

Start of delivery mark

Tolerance : + 0.10

Check

: +- 0.75 tolerance *NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 11.80 : +- 0.05 Tolerance mm

| | + guide steeve |
|--|--------------------------------------|
| Del. quantity | + travel mm : 3.57 |
| cm3/1000 strokes : 203.0 | Tolerance mm : + 0.25 |
| | . + |
| Tolerance | + Rated speed rpm : 1204 |
| $c_{3}3/1000$ strokes : \leftarrow 1.0 | + guide sleeve |
| Charle Antonomic | _ + travel mm : 10.00 |
| Check tolerance | Tolerance mm : +- 0.25 |
| Cm3/10003. : 4.0 | Rated speed rpm : 1300 |
| Spreed | guide sleeve |
| opi eed | travel mm : 11.50 |
| Tolerance | + Tolerance mm : +- 0.50 |
| cm3/1000 strokes : 5.0 | + |
| | |
| Check tolerance | + GUIDE SLEEVE POSITION |
| cm3/1000s. : 9.0 | + |
| | . + |
| | + control lever |
| Data dama at man | position degree : - 1 |
| Rated speed rpm : 350 | + Pated speed rpm : 1178 |
| Rack travel in mm : 4.70 | + Rack travel in mm : 10.80 |
| Tolerance mm : + 0.10 | + Tolerance mm : + 1.30 |
| Del. quantity | I roter acide mail . += 1.50 |
| cm3/1000 strokes : 19.0 | |
| Tolerance | FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000 strokes : + 3.0 | + |
| Check tolerance | + Rated speed rpm : 1050 |
| cm3/1000s. : +- 6.0 | + Aneroid pressure |
| Spreed | → hPa : 1000 |
| Tolerance | + Del. quantity |
| cm3/1000 strokes : 6.0 | + cm3/1000 strokes : 203.0 |
| Check tolerance | + Tolerance |
| cm3/1000s. : 10.0 | + cm3/1000 strokes : +- 1.0 |
| | Check tolerance |
| (B) SETTING OF INJECTION PUMP | + cm3/1000s. : + 4.0 + Spreed |
| WITH GOVERNOR | Tolerance |
| ATIL GOATIGOR | - cm3/1000 strokes : 5.0 |
| | + Check tolerance |
| GUIDE SLEEVE TRAVEL | + cm3/1000s. : 9.0 |
| | + |
| Rated speed rpm : 1106 | + |
| guide sleeve | |
| travel mm : 8.02 | + CONTROL LEVER |
| Tolerance mm : + 0.15 | + |
| 7.0 | + control lever |
| Rated speed rpm : 350 | position degree : 116.0 |
| guide sleeve | tolerance degree : + 4.0 |
| travel mma : 1.48 Tolerance mma : + 0.20 | T RATED SPEED |
| 10ter 0110 - F- 0.CU | + rack travel mm : 10.80 |
| Rated speed rpm : 900 | Rated speed rem : 10.00 |
| guide sleeve | + Tolerance 1/min : +- 5 |
| travel mm : 5.69 | + |
| Tolerance mm : + 0.25 | rack travel mm : 4.00 |
| | + Rated speed rpm : 1155 |
| Rated speed rpm : 570 | + Tolerance 1/min : +- 15 |
| | • |

| rack travel mm Tolerance mm Rated speed rpm | : +- 0.50 |
|--|---------------------------------------|
| LOW IDLE | |
| control lever position degree tolerance degree Setting point w/o | |
| Rated speed rpm | · · · · · · · · · · · · · · · · · · · |
| • | |
| | : > 6.50 |
| Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm | : 4.70 : + 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm | : 11.80 : +- 0.05 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa | : 500 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 200 : 0.45 : + 0.05 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa | : 400 |

| Start interlock | |
|------------------------------------|--------------------|
| Rated speed rpm Rated speed rpm | : > 100 : < 270 |
| Check speed 1/min | : > 80 |
| Check | |
| speed 1/min | : < 290 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure | |
| hPa | : 1000 |
| Rated speed rpm | : 550 |
| Del. quantity cm3/1000 strokes | : 201.0 |
| Tolerance cm3/1000 strokes | : ← 2.0 |
| Check tolerance cm3/1000s. | : +- 5.0 |
| Spreed Tolerance | |
| cm3/1000 strokes | : 8.0 |
| Check tolerance cm3/1000s. | : 12.0 |
| | |
| Aneroid pressure | |
| hPa Rated speed rpm | 500 |
| Del. quantity cm3/1000 strokes | : 127.0 |
| Tolerance cm3/1000 strokes | : +- 1.0 |
| Check tolerance cm3/1000s. | |
| Spreed | : +- 4.0 |
| Tolerance cm3/1000 strokes | : 8.0 |
| Check tolerance cm3/1000s. | : 12.0 |
| | |
| STARTING FUEL DEL | IVERY |
| Rated speed rpm | : 100 |
| Del. quantity cm3/1000 strokes | : 180.0 |
| Tolerance cm3/1000 strokes | |
| Check tolerance | |
| cm3/1000s. | : ← 14.0 |

LOW IDLE

| Rated speed rpm | : | 350 | |
|--|-----------|--------------|--|
| Rack travel in mma Tolerance mma Del. quantity | : : +- | 4.70 0.10 | |
| 744000 | : | 19.0 | |
| cm3/1000 strokes Check tolerance | : +- | 3.0 | |
| cm3/1000s. Spreed | : +- | 6.0 | |
| Tolerance cm3/1000 strokes Check tolerance | : | 6.0 | |
| cm3/1000s. | : | 10.0 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 06.01.98 : ISO 4113

Combination No. : 0 402 646 702

Injection pump Pump designation : EP type number

Governor

Governer design. : RQV350...1050PA1368

Governer no. : 0 421 814 206

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : 0M401 LA Motor Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 120 Tolerance l/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55 : + 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

: 1

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 11.80 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 190.0

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| | • |
|--|--|
| Tolerance | 🕂 guide sleeve |
| cm3/1000 strokes : +- 1.0 | + travel mm : 10.00 |
| | + Tolerance mm : + 0.25 |
| Check tolerance | Total direction |
| | 7 224-1-2-1-2-1-2-1-2-1-2-1-2-1-2-1-2-1-2- |
| cm3/1000s. : +- 4.0 | + Rated speed rpm : 1300 |
| | † guide sleeve |
| Spreed | + travel mm : 11.50 |
| • | + Tolerance mm : + 0.50 |
| Tolerance | 10cci dilec ima |
| | T |
| cm3/1000 strokes : 5.0 | |
| | + GUIDE SLEEVE POSITION |
| Check tolerance | + |
| cm3/1000s. : 9.0 | 1 |
| | + control lever |
| | |
| | + position degree : -1 |
| | + Rated speed rpm : 1178 |
| Rated speed rpm : 350 | + |
| | + Rack travel in mm : 10.80 |
| Rack travel in mm: 4.70 | + Tolerance mm : +- 1.30 |
| | TOTALINA . 1.30 |
| | Ť |
| Del. quantity | |
| cm3/1000 strokes : 19.0 | + FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | + |
| cm3/1000 strokes : +- 3.0 | Rated speed rpm : 1050 |
| Check tolerance | |
| | + Aneroid pressure |
| cm3/1000s. : +- 6.0 | + hPa : 800 |
| Spreed | + Del. quantity |
| Tolerance | + cm3/1000 strokes : 190.0 |
| cm3/1000 strokes : 6.0 | + Tolerance |
| Check tolerance | cm3/1000 strokes : + 1.0 |
| | The state of the s |
| cm3/1000s. : 10.0 | + Check tolerance |
| | + cm3/1000s. : +- 4.0 |
| | + Spreed |
| (B) SETTING OF INJECTION PUMP | + Tolerance |
| WITH GOVERNOR | + cm3/1000 strokes : 5.0 |
| MILL GOAFUNOK | |
| | - Check tolerance |
| | + cm3/1000s. : 9.0 |
| GUIDE SLEEVE TRAVEL | _ |
| | T |
| | Ţ |
| Rated speed rom • 1104 | <u> </u> |
| Rated speed rpm : 1106 | CONTROL LEVED |
| guide sleeve | CONTROL LEVER |
| guide sleeve travel mm : 8.02 | } |
| guide sleeve | + control lever |
| guide sleeve travel mm : 8.02 | + control lever |
| guide sleeve travel mm : 8.02 Tolerance mm : +- 0.15 | + control lever + position degree : 116.0 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 | + control lever |
| guide sleeve travel mm : 8.02 Tolerance mm : +- 0.15 Rated speed rpm : 350 guide sleeve | control lever position degree : 116.0 tolerance degree : +- 4.0 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED |
| guide sleeve travel mm : 8.02 Tolerance mm : +- 0.15 Rated speed rpm : 350 guide sleeve | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.80 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.80 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : +- 5 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve travel mm : 5.69 | control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1155 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve travel mm : 5.69 | control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1155 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 570 | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : +- 15 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 570 guide sleeve | control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : + 15 rack travel mm : 0.75 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 570 guide sleeve travel mm : 5.70 guide sleeve travel mm : 3.57 | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : +- 15 rack travel mm : 0.75 Tolerance mm : +- 0.75 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 570 guide sleeve | control lever position degree : 116.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : + 15 rack travel mm : 0.75 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 570 guide sleeve travel mm : 5.70 guide sleeve travel mm : 3.57 | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : +- 15 rack travel mm : 0.75 Tolerance mm : +- 0.75 |
| guide sleeve travel mm : 8.02 Tolerance mm : + 0.15 Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : + 0.20 Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : + 0.25 Rated speed rpm : 570 guide sleeve travel mm : 5.70 guide sleeve travel mm : 3.57 | control lever position degree : 116.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.80 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : +- 15 rack travel mm : 0.75 Tolerance mm : +- 0.75 |

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LOW IDLE

control lever

position degree : 65.0 tolerance degree : +-4.0

Setting point w/out bumper spring

Rated speed rpm : 250

CRT man min. : > 6.50

Testing:

Rated speed rpm 350 rack travel mm 4.70 Tolerance nm : +- 0.10

Rated speed rom 400 :

TORQUE CONTROL

1050 Rated speed rpm 11.80 rack travel mm Tolerance mm : ← 0.05

Rated speed rpm 550 rack travel mm 11.80 : + 0.05 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 500 Pressure hPa

MEASUREMENT

200 Pressure hPa rack travel mm 0.20 : +- 0.05 Tolerance mm

Pressure hPa 350 1.00 rack travel mm : + 0.10 Tolerance mm

Start interlock

100 Rated speed rpm : > 270 Rated speed rpm : <

Check

speed 1/min

: > 80

Check

speed 1/min

: < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

800 Rated speed rpm 550

Del. quantity cm3/1000 strokes : 184.0

Tolerance

cm3/1000 strokes : +-2.0 Check tolerance

cm3/1000s. 5.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s.

12.0 :

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 131.0

Tolerance

cm3/1000 strokes : +-1.0 Check tolerance

cm3/1000s.4.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s.12.0

STARTING FUEL DELIVERY

Rated speed rpm 100 Del. quantity

cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s.: +- 14.0

LOW IDLE

Rated speed rpm : 350

4.70 Rack travel in mm :

| Tolerance mm Del. quantity | : +- | 0.10 |
|-------------------------------------|------|------|
| cm3/1000 strokes | : | 19.0 |
| Tolerance cm3/1000 strokes | : +- | 3.0 |
| Check tolerance cm3/1000s. | : +- | 6.0 |
| Spreed Tolerance | | |
| cm3/1000 strokes Check tolerance | : | 6.0 |
| cm3/1000s. | : | 10.0 |
| | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 06.01.98 : ISO 4113

Combination No. : 0 402 646 703

Injection pump Pump designation : EP type number

Governor

Governer design. : RQV350...1050PA1369

Governer no.

: 0 421 814 207

Cust. part No.

Customer-spec. information Customer : MB-NFZ : 0M401 LA Motor Power KW : 213.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

: 120 min. L/h Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 : **←** 1.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.25 : + 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 : **←** 0.50 Tolerance mm

Firing order : 6-3-5-2-4-

: 1

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Start of delivery mark

Tolerance : ← 0.10

Check

tolerance *NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 11.80

Tolerance mm : + 0.05

| | ∔ guide sleeve |
|---|--|
| Del. quantity | + travel mm : 3.57 |
| cm3/1000 strokes : 203.0 | + Tolerance mm : ← 0.25 |
| Tolerance | Rated speed rpm : 1204 |
| cm3/1000 strokes : + 1.0 | guide steeve |
| | + travel mm : 10.00 |
| Check tolerance | + Tolerance mm : +- 0.25 |
| cm3/1000s. : \leftarrow 4.0 | Rated speed rpm : 1300 |
| Spreed | + guide sleeve |
| • | + travel mm : 11.50 |
| Tolerance | † Tolerance mm : + 0.50 |
| cm3/1000 strokes : 5.0 | † |
| Check tolerance | GUIDE SLEEVE POSITION |
| cm3/1000s. : 9.0 | + |
| | + |
| | + control lever |
| Rated speed rpm : 350 | + position degree : - 1 + Rated speed rpm : 1178 |
| Nated Speed I pill . 330 | T Nated speed (pill : 1176 |
| Rack travel in mm : 4.70 | Rack travel in mm: 10.80 |
| Tolerance mm : + 0.10 | + Tolerance mm : + 1.30 |
| Del. quantity cm3/1000 strokes : 19.0 | |
| Tolerance | FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000 strokes : +- 3.0 | TOLE LOAD DELIVERY AT TOLE LOAD STOP |
| Check tolerance | Rated speed rpm : 1050 |
| cm3/1000s. : +- 6.0 | + Aneroid pressure |
| Spreed Tolonoo | + hPa : 1000 |
| Tolerance cm3/1000 strokes : 6.0 | + Del. quantity + cm3/1000 strokes : 203.0 |
| Check tolerance | Tolerance |
| cm3/1000s. : 10.0 | + cm3/1000 strokes : + 1.0 |
| | + Check tolerance |
| (D) CETTAIC OF TAUECTION DIME | + cm3/1000s. : +- 4.0 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | + Spreed + Tolerance |
| WITH GOVERNOR | + cm3/1000 strokes : 5.0 |
| | + Check tolerance |
| GUIDE SLEEVE TRAVEL | + cm3/1000s. : 9.0 |
| Rated speed rpm : 1106 | I |
| guide sleeve | |
| travel mm : 8.02 | + CONTROL LEVER |
| Tolerance mm : + 0.15 | + |
| Dated aread man a 750 | t control lever |
| Rated speed rpm : 350 guide sleeve | <pre>position degree : 116.0 tolerance degree : +- 4.0</pre> |
| travel mm : 1.48 | toter direct degree 4.0 |
| Tolerance mm : + 0.20 | + RATED SPEED |
| 2.1 | + rack travel mm : 10.80 |
| Rated speed rpm : 900 | Rated speed rpm : 1095 |
| guide sleeve travel mm : 5.69 | Tolerance 1/min : + 5 |
| Tolerance nam : +- 0.25 | rack travel mm : 4.00 |
| | + Rated speed rpm : 1155 |
| Rated speed rpm : 570 | + Tolerance 1/min : + 15 |

| rack travel mm Tolerance mm Rated speed rpm | : 0.50 : + 0.50 : 1300 |
|---|--------------------------------------|
| LOW IDLE | |
| control lever position degree tolerance degree | : 65.0 : ← 4.0 |
| Setting point w/c | out bumper spring |
| Rated speed rpm | : 250 |
| CRT ma min. | : > 6.50 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 350 : 4.70 : + 0.10 |
| Rated speed rpm | : 400 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 11.80 : +- 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 550 : 11.80 : +- 0.05 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa | : 500 : - |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 200 : 0.45 : + 0.05 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |

| Start interlock | |
|------------------------------------|--------------------|
| Rated speed rpm Rated speed rpm | : > 100 : < 270 |
| kateu speeu rpm | : < 210 |
| Check | |
| speed 1/min Check | : > 80 |
| speed 1/min | : < 290 |
| | |
| FUEL DELIVERY CHA | RACTERISTICS |
| | |
| Aneroid pressure | |
| hPa | : 1000 |
| Rated speed rpm | : 550 |
| Del. quantity | 204 0 |
| cm3/1000 strokes Tolerance | : 201.0 |
| cm3/1000 strokes | : +- 2.0 |
| Check tolerance | |
| cm3/1000s. | : ← 5.0 |
| Spreed Tolerance | |
| cm3/1000 strokes | : 8.0 |
| Check tolerance | . 0.0 |
| cm3/1000s. | : 12.0 |
| | |
| Aneroid pressure | |
| hPa | : - |
| Rated speed rpm | : 500 |
| Del. quantity cm3/1000 strokes | : 127.0 |
| Tolerance | . (27.0 |
| cm3/1000 strokes | : + 1.0 |
| Check tolerance | |
| cm3/1000s. Spreed | : + 4.0 |
| Tolerance | |
| cm3/1000 strokes | : 8.0 |
| Check tolerance | . 47 n |
| cm3/1000s. | : 12.0 |
| | |
| STARTING FUEL DEL | IVERY |
| Rated speed rpm | : 100 |
| Del. quantity | |
| cm3/1000 strokes | : 180.0 |
| Tolerance cm3/1000 strokes | : + 10.0 |
| Check tolerance | 10.0 |
| cm3/1000s. | : +- 14.0 |
| | |

Pressure hPa : 400

LOW IDLE

| Rated speed rpm | : | 350 | |
|-------------------------------------|-----------|--------------|--|
| Rack travel in mm Tolerance mm | • | 4.70 0.10 | |
| Del. quantity | · | 19.0 | |
| Tolerance | · : +- | 3.0 | |
| Check tolerance cm3/1000s. | : +- | 6.0 | |
| Spreed Tolerance | | 0,0 | |
| cm3/1000 strokes Check tolerance | : | 6.0 | |
| cm3/1000s. | : | 10.0 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 07.01.98 : ISO 4113

Combination No. : 0 402 716 803

Injection pump

Pump designation : PES6P12DA700LS7394

EP type number : 0 412 726 947

Governor

Governer design. : Governer no.

Cust. part No. : 51.11103-7413

Customer-spec. information

Customer : MAN Motor

: D2866 LE203

Power KW

: 327.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.1

Test oil inlet

temp. °C

Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

: 208.5

Tolerance bar

Test Lines : 1 680 750 089

Outside diameter :

8.0

x inside diameter: x length man : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.40 : +- 0.05 Tolerance mm

Check

: + 0.10tolerance mm

Rack travel in mm: 13.00 : +- 0.50 Tolerance mm

: 6- 2- 4- 1- 5-: 3 Firing order

Phasing : 0-60-120-180-240

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance 'NW : +- 0.75

Barrel no.

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 13.10

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 370.0

Tolerance

cm3/1000 strokes : +- 1.0

| Check tolerance cm3/1000s. | : + 4.0 |
|---|--|
| Spreed | |
| Tolerance cm3/1000 strokes | : 5.0 |
| Check tolerance cm3/1000s. | : 9.0 |
| Rated speed rpm | : 300 |
| Del. quantity cm3/1000 strokes | |
| Tolerance cm3/1000 strokes | : + 3.0 |
| Check tolerance cm3/1000s. Spreed | : + 6.0 |
| Tolerance cm3/1000 strokes | : 8.0 |
| | |
| Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR | : 12.0 NECTION PUMP |
| Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR | |
| Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm | NECTION PUMP |
| Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Ameroid pressure hPa | JECTION PUMP |
| Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | SY AT FULL LOAD STOP : 700 : - |
| Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | IJECTION PUMP LY AT FULL LOAD STOP : 700 : - : 370.0 |
| Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Ameroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed | IJECTION PUMP LY AT FULL LOAD STOP : 700 : - : 370.0 |
| Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes | Y AT FULL LOAD STOP : 700 : - : 370.0 : + 1.0 |
| Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | Y AT FULL LOAD STOP : 700 : - : 370.0 : + 1.0 : + 4.0 |

| STARTING FUEL DELIVERY | | | |
|---|---------------|--------------------|-------------|
| Rated speed rpm | : | 100 | |
| rack travel mm | : | 13.10 | |
| Tolerance mm | : +- | 0.05 | |
| Del. quantity cm3/1000 strokes | • | 345.0 | |
| Tolerance | • | 343.0 | |
| cm3/1000 strokes | : +- | 20.0 | |
| Check tolerance | | 2/ 2 | |
| cm3/1000s. | : +- | 24.0 | |
| | | | |
| LOW IDLE | . | | |
| Rated speed rpm | : | 300 | |
| Rated speed rpm Del. quantity | • | | |
| Rated speed rpm Del. quantity cm3/1000 strokes | • | 300 95.0 | |
| Rated speed rpm Del. quantity | • | | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | • | 95.0 3.0 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | • | 95.0 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed | • | 95.0 3.0 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | • | 95.0 3.0 6.0 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed | • | 95.0 3.0 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.01.98 Edition Test oil : ISO 4113

Combination No. : 0 402 746 603

Injection pump

Pump designation: PES6P120A320RS7359 EP type number : 0 412 726 925

60vernor

Governer design. : RQ300/1050PA999-7 Governer no. : 0 421 801 799

Cust. part No. : CCEP 5153 66-224

Customer-spec. information

Customer : RENAULT V.I. : MIHRO62045 A41 Motor

Power KW : 188.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70 Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

Start of delivery mark

*NW after s.o.d. : -0.50

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm : 12.40 Tolerance mm : +- 0.05

BASIC SETTING

| Rated speed rpm | : 600 | 1 |
|----------------------------|--------------------|---|
| nacea speed i piii | | Rated speed rpm : 594 |
| Tolerance mm | : +- 0.05 | + guide sleeve |
| | | † travel mm : 5.11 |
| Del. quantity | | † Tolerance mm : + 0.10 |
| cm3/1000 strokes | : 195.0 | † |
| 1 | | + Rated speed rpm : 720 |
| Tolerance | 4.0 | + guide sleeve |
| cm3/1000 strokes | : +- 1.0 | travel mm : 6.00 |
| Check tolerance | | Tolerance mm : +- 0.10 |
| cm3/1000s. | : +- 4.0 | Rated speed rpm : 1380 |
| CIRS7 10000. | 4.0 | guide sleeve |
| Spreed | | + travel mm : 11.50 |
| op. 555 | | + Tolerance mm : + 0.50 |
| Tolerance | | + |
| cm3/1000 strokes | 5.0 | + |
| | | GUIDE SLEEVE POSITION |
| Check tolerance | | † |
| cm3/1000s. | : 9.0 | † |
| | | + control lever |
| | | + position degree : 109 |
| Detail speed ass | : 275 | Rated speed rpm : 800 |
| Rated speed rpm | : 2/3 | Rack travel in mm: 20.00 |
| Rack travel in m | m: -6.60 | Tolerance mm : + 0.80 |
| Tolerance mm | | Total alice law 0,00 |
| Del. quantity | | |
| cm3/1000 strokes | : 38.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | | + |
| cm3/1000 strokes | : 2.0 | Rated speed rpm : 600 |
| Check tolerance | | + Aneroid pressure |
| cm3/1000s. | : ← 5.0 | † hPa : 1000 |
| Spreed | | Del. quantity |
| Tolerance | | + cm3/1000 strokes : 195.0 |
| cm3/1000 strokes | : 8.0 | Tolerance |
| Check tolerance cm3/1000s. | : 12.0 | + cm3/1000 strokes : + 1.0 + Check tolerance |
| UND/ (UUUS. | . 12.0 | - cneck toterance - cm3/1900s. : +- 4.0 |
| | | Foreed : + 4.0 |
| (B) SETTING OF I | NJECTION PUMP | Tolerance |
| WITH GOVERNOR | | + cm3/1000 strokes : 5.0 |
| | | + Check tolerance |
| | | + cm3/1000s. : 9.0 |
| GUIDE SLEEVE TRA | VEL | + |
| Bake day 1 | 44.5 | † |
| Rated speed rpm | : 1145 | CONTROL LEVEN |
| guide sleeve | . 4 55 | + CONTROL LEVER |
| travel mm Tolerance mm | : 6.55 · + 0.15 | control lever |
| IOCALALICA 1888 | . — 0.13 | position degree : 276.0 |
| Rated speed rpm | : 275 | tolerance degree : +- 4.0 |
| guide sleeve | | + total dida dagi de Tiu |
| travel mm | : 1.75 | RATED SPEED |
| Tolerance mm | | ∔ rack travel mm : -1.00 |
| | | + Rated speed rpm : 1120 |
| Rated speed rpm | : 1050 | + Tolerance 1/min : +- 15 |
| guide sleeve | | † |
| travel mm | : 6.00 | + rack travel mm : -8.40 |
| Tolerance mm | : +- 0.10 | + Rated speed rpm : 1250 |

Tolerance 1/min : + 5 rack travel mm : -11.90 Tolerance mm : + 0.50 Rated speed rpm : 1375 LOW IDLE control lever position degree : 254.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed row : 175 CRT mm min. : < -4.70Testing: Rated speed rpm : 275 rack travel mm : -6.60 : + 0.10 Tolerance mm rack travel mm : -10.4
Rated speed rpm : 465 : -10.40 Tolerance 1/min : + 20 TORQUE CONTROL Rated speed rpm : 600 : + 0.05 Tolerance mm Rated speed rpm : 1050 Tolerance mm : **←** 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1000 500 Rated speed rpm : Pressure hPa : rack travel mm -1.75: + 0.20 Tolerance mm **MEASUREMENT** Rated speed rom : 500 Pressure hPa : 220

rack travel mm : -0.85 Tolerance mm : +- 0.15 rressure hPa : 160 rack travel mm : -1.25 Tolerance mm : + 0.05 Start interlock 100 Rated speed rpm : > : < 195 Rated speed rpm Check speed 1/min : > 80 Check speed 1/min : < 215 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1000 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 196.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure hPa Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 153.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. : +- 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 150.0 Tolerance cm3/1000 strokes : +- 15.0Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

J17

| Rated speed rpm | : | 275 |
|--|-----------------|---------------|
| Rack travel in mm Tolerance mm Del. quantity | : ⊹ ← | -6.60 0.10 |
| cm3/1000 strokes Tolerance | : | 38.0 |
| cm3/1000 strokes Check tolerance | : +- | 2.0 |
| cm3/1000s. Spreed | : +- | 5.0 |
| Tolerance cm3/1000 strokes Check tolerance | : | 8.0 |
| cm3/1000s. | : | 12.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.01.98 Test oil : ISO 4113

Combination No. : 0 402 746 638

Injection pump

Pump designation : PES6P120A320RS7449 EP type number : 0 412 726 974

Governor

Governer design. : RQ275/1050PA1373 Governer no. : 0 421 801 831

Cust. part No. : CCEP 5171-66/254

Customer—spec. information

: RENAULT V.I. Customer : MI7R062045 C41 Motor

Power KW : 152.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : + 2.0 Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

min. l/h : 220 Tolerance l/h : + 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar $: \leftarrow 1.0$

Prestroke mm : 4.70 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.25 Tolerance mm : + 0.75

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

: + 0.50Tolerance

Check

tolerance *NW : **←** 0.75

Start of delivery mark

*NW after s.o.d. : -0.95

Tolerance : \leftarrow 0.50 Check

tolerance *NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

| | |
|--|--|
| Rack travel in mm : 11.70 | Rated speed rpm : 1050 |
| Tolerance non : + 0.05 | guide sleeve |
| TO CET ON THE TANK TO THE TANK | |
| | |
| BASIC SETTING | + Tolerance mm : + 0.10 |
| DWOIC SELLING | T Dated and and |
| Date of amount own at 1000 | Rated speed rpm : 668 |
| Rated speed rpm : 1050 | + guide sleeve |
| | travel mm : 6.18 |
| Del. quantity | Tolerance mm : +- 0.10 |
| cm3/1000 strokes : 176.0 | † |
| | + Rated speed rpm : 377 |
| Tolerance | + guide sleeve |
| cm3/1000 strokes : +- 1.0 | travel mm : 5.00 |
| | † Tolerance mm : + 0.10 |
| Check tolerance | + |
| cm3/1000s. : +- 4.0 | + Rated speed rpm : 460 |
| | + guide sleeve |
| Spreed | travel mm : 6.00 |
| | + Tolerance mm : + 0.10 |
| Tolerance | |
| cm3/1000 strokes : 5.0 | Rated speed rpm : 1310 |
| une, 1000 3tl 01100 . 3.0 | guide sleeve |
| Check tolerance | travel mm : 11.50 |
| cra3/1000s. : 9.0 | + Tolerance mm : + 0.50 |
| CHD/ 10003 9.0 | T roterance in |
| | Rated speed rpm : 874 |
| | guide sleeve |
| Ratted speed rpm : 275 | travel mm : 6.52 |
| rated speed that : 273 | |
| Double Association and the Add | Tolerance mm : + 0.10 |
| Rack travel in mm : -6.10 Tolerance mm : +- 0.10 | Ť |
| | GUIDE SLEEVE POSITION |
| | + 1911DE SCEEVE PUSTITION |
| Del. quantity | GOIDE DEELVE 1 OOT 1 TON |
| cm3/1000 strokes : 28.0 | 1 33172 322272 7 33111377 |
| cm3/1000 strokes : 28.0 Tolerance | ‡ |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.0 | control lever |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance | control lever position degree : 109 |
| <pre>cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0</pre> | control lever |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed | control lever position degree : 109 Rated speed rpm : 1050 |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 | control lever position degree : 109 Rated speed rpm : 1050 |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : +- 0.80 |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 |
| cm3/1000 strokes : 28.0 Tolerance : + 2.0 cm3/1000 strokes : + 5.0 cm3/1000s : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s cm3/1000s : 12.0 | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 |
| Cm3/1000 strokes : 28.0 Tolerance Cm3/1000 strokes : + 2.0 Check tolerance Cm3/1000s. : + 5.0 Spreed Tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 Tolerance |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1125 | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 1.0 |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1125 guide sleeve | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1125 guide sleeve travel mm : 7.06 | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 |
| cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1125 guide sleeve | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed |
| Tolerance cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1125 guide sleeve travel mm : 7.06 Tolerance mm : + 0.15 | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance |
| Tolerance cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1125 guide sleeve travel mm : 7.06 Tolerance mm : + 0.15 Rated speed rpm : 275 | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 |
| Tolerance cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1125 guide sleeve travel mm : 7.06 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance |
| Tolerance cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1125 guide sleeve travel mm : 7.06 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve travel mm : 2.38 | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 |
| Tolerance cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1125 guide sleeve travel mm : 7.06 Tolerance mm : + 0.15 Rated speed rpm : 275 guide sleeve | control lever position degree : 109 Rated speed rpm : 1050 Rack travel in mm : 20.00 Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance |

CONTROL LEVER

control lever

position degree : 275.0 tolerance degree : + 4.0

RATED SPEED

-1.00 rack travel mm : Rated speed rpm : 1115 Tolerance 1/min : +-

rack travel mm -7.70 Rated speed rpm : 1205 Tolerance 1/min : + 15

rack travel mm : -11.20 : +- 0.50 Tolerance mm Rated speed rpm : 1350

LOW IDLE

control lever

position degree : 255.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT men min. : > -4.30

Testing:

Rated speed rpm : 275 rack travel mm -6.10 Tolerance mm : + 0.10

2.00 rack travel mm Rated speed rpm : 367 Tolerance 1/min : ← 20

TORQUE CONTROL

1050 Rated speed rpm :

600 Rated speed rpm : 0.80 rack travel mm : : **←** 0.10 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 Pressure hPa : 1000 rack travel mm : 1.00 Tolerance mm : +- 0.10

Rated speed rpm : 500 Pressure hPa : -1.00rack travel mm : + 0.20 Tolerance mm

MEASUREMENT

Rated speed rpm : 500

Pressure hPa 280 0.40 rack travel mm Tolerance mm : + 0.15

Pressure hPa : 160 rack travel mm : -0.40 : **←** 0.05 Tolerance mm

Start interlock

Rated speed rpm :> 100 Rated speed rpm : < 195

Check speed 1/min : > 80 Check speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

: 1000 Rated speed rpm : 600 Del. quantity

cm3/1000 strokes : 193.0

Tolerance

cm3/1000 strokes : + 3.0Check tolerance

cm3/1000s.: +- 6.0

Aneroid pressure

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 149.0

Tolerance

cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

100 Rated speed rpm :

Del. quantity cm3/1000 strokes : 155.0

Tolerance

cm3/1000 strokes $z \leftarrow 15.0$

Check tolerance

cm3/1000s.: + 19.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm: -6.10 Tolerance mm : +- 0.10 Del. quantity

cm3/1000 strokes : 28.0

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

5.0 cm3/1000s. : +-

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.01.98 Edition Test oil : ISO 4113

Combination No. : 0 402 846 081

Injection pump

Pump designation : PE6P120A320RS8054

EP type number : 0 412 826 039

Governor

Governer design. : RQV300...950PA1355K

Governer no. : 0 421 815 962

Cust. part No. : 11127026

: -P04 v.12.97

Customer-spec. information : VCE Customer : TD122KLE Motor Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temo. °C 40 Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : : +- 0.1 Tolerance bar

Overflow quantity

min. l/h : 150 Tolerance l/h : ← 20.0

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 11.00 : +- 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery mark

: +- 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 950

| | 1 |
|--|---|
| Rack travel in mm : 11.70 Tolerance mm : +- 0.05 | Rated speed rpm : 500 guide sleeve travel mm : 4.00 |
| Del. quantity cm3/1000 strokes : 260.0 | Tolerance mm : + 0.25 |
| Tolerance cm3/1000 strokes : + 1.0 | Rated speed rpm : 1280 guide sleeve travel mm : 13.50 |
| Check tolerance cm3/1000s. : + 4.0 | Tolerance mm : + 0.50 |
| Spreed | + GUIDE SLEEVE POSITION |
| Tolerance . 8.0 | control lever position degree : -1 Rated speed rpm : 1125 |
| Check tolerance : 11.0 | Rack travel in mm : 11.70 Tolerance mm : + 2.00 |
| Rated speed rpm : 300 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Rack travel in mm : 5.50 | Rated speed rpm : 950 |
| Tolerance mm : + 0.10 | + Aneroid pressure |
| Del. quantity | + hPa : 1500 |
| cm3/1000 strokes : 80.0 | + Del. quantity |
| Tolerance | - cm3/1000 strokes : 260.0 |
| cm3/1000 strokes : +- 3.0 Check tolerance | + Tolerance + cm3/1000 strokes : + 1.0 |
| cm3/1000s. : +- 6.0 | Check tolerance |
| Spreed | + cm3/1000s. : + 4.0 |
| Tolerance | Spreed |
| cm3/1000 strokes : 5.0 | + Tolerance |
| Check tolerance cm3/1000s. : 8.0 | cm3/1000 strokes : 8.0 |
| cm3/1000s. : 6.0 | + Check tolerance + cm3/1000s. : 11.0 |
| (B) SETTING OF INJECTION PUMP WITH SOVERNOR | † |
| | CONTROL LEVER |
| GUIDE SLEEVE TRAVEL | control lever position degree : 64.0 |
| Rated speed rpm : 1037 guide sleeve | tolerance degree : +- 4.0 |
| travel mm : 9.86 | + control lever |
| Tolerance mm : + 0.15 | position degree : 117.0 tolerance degree : + 4.0 |
| Rated speed rpm : 300 | + |
| guide sleeve | + RATED SPEED |
| travel mm : 1.61 Tolerance mm : + 0.20 | rack travel mm : 10.70 Rated speed rpm : 985 |
| TO LET CONTINUE THAT : TO U.20 | + Rated speed rpm : 985 + Tolerance 1/min : + 5 |
| Rated speed rpm : 773 | + |
| guide sleeve | + rack travel mm : 4.00 |
| travel mm : 6.81 | + Rated speed rpm : 1080 |
| Tolerance mm : + 0.25 | + Tolerance 1/min : + 15 |

| rack travel mm Tolerance mm Rated speed rpm | : +- 0.50 | |
|---|------------------------------|--|
| LOW IDLE | | |
| control lever position degree tolerance degree | : 75.0 : ← 4.0 | |
| control lever position degree tolerance degree | : 20.0 : + 4.0 | |
| Setting point w/out bumper spring | | |
| Rated speed rpm | : 200 | |
| CRT ram min. | : > 7.50 | |
| Testing: | | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 5.50 : + 0.10 | |
| Rated speed rpm | : 400 | |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 950 : 11.70 : + 0.05 | |
| Rated speed rpm rack travel mm Tolerance mm | : 800 : 12.40 : + 0.10 | |
| Rated speed rpm rack travel mm Tolerance mm | : 850 : 12.10 : ← 0.10 | |
| Rated speed rpm rack travel mm Tolerance mm | : 500 : 11.10 : + 0.20 | |
| ANEROID/ALTITUDE COMPENSATOR TEST | | |
| SETTING | | |

| Tolerance mm | : + 0.10 | |
|--|------------------------------------|--|
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 800 : - : 8.90 : + 0.20 | |
| MEASUREMENT | | |
| Rated speed rpm | : 800 | |
| Pressure hPa rack travel mma Tolerance mm | : 810 : 3.00 : + 0.20 | |
| Pressure hPa rack travel mm Tolerance mm | : 240 : 0.25 : + 0.05 | |
| FUEL DELIVERY CHARACTERISTICS | | |
| Aneroid pressure hPa Rated speed rpm | : 1500 : 800 | |
| Del. quantity cm3/1000 strokes | : 296.0 | |
| Tolerance cm3/1000 strokes Check tolerance | : + 4.0 | |
| cm3/1000s. | : +- 8.0 | |
| rack travel men Tolerance men | : 12.10 : + 0.10 | |
| Aneroid pressure | | |
| hPa Rated speed rpm | 500 | |
| Del. quantity cm3/1000 strokes Tolerance | : 220.0 | |
| cm3/1000 strokes Check tolerance | : + 1.0 | |
| cm3/1000S. | : ← 4.0 | |
| STARTING FUEL DELIVERY | | |
| Rated speed rpm rack travel mm Tolerance mm Del. quantity | : 100 : 8.90 : + 0.30 | |
| cm3/1000 strokes | : 180.0 | |

rack travel mm : 12.40

Rated speed rpm : 800 Pressure hPa : 1500

| Tolerance | | |
|------------------|------|------|
| cm3/1000 strokes | : +- | 15.0 |
| Check tolerance | | |
| cm3/1000s. | : +- | 19.0 |

LOW IDLE

| Rated speed rpm | : | 300 | |
|-------------------------------|------|------|--|
| Rack travel in man | - | 5.50 | |
| Tolerance mm Del. quantity | : +- | 0.10 | |
| cm3/1000 strokes | : | 80.0 | |
| 51857 1050 001 51100 | : + | 3.0 | |
| Check tolerance cm3/1000s. | : +- | 6.0 | |
| Spreed | | | |
| 5.M57 1000 0 51 01100 | : | 5.0 | |
| Check tolerance cm3/1000s. | : | 8.0 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 06.01.98 : ISO 4113

Combination No. : 0 402 036 762

Injection pump

Pump designation : PES6P110A120RS3353

EP type number : 0 412 016 752

Governor

Governer design. : RQV450...1100PA1233

: -1K

Governer no.

: 0 421 815 479

Cust. part No. : 3926776

Customer—spec. information Customer : CDC Motor : 6CTA Power KW : 194.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

: 208.5

Tolerance bar

: **←** 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter :

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : ← 1.0

Prestroke mm : +-: +- 0.05

Check

tolerance mm: \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 8.00

: +- 0.50 Tolerance

Check

tolerance *NW : **←** 0.75

: 1 Barrel no.

Beginning of delivery differende

and maximum rack

travel : 13.00

Difference * CS : 1.20

| | + Tolerance mm : +- 0.25 |
|--|---|
| BASIC SETTING | Rated speed rpm : 890 guide sleeve |
| Rated speed rpm : 1000 | + travel mm : 4.75 + Tolerance mm : + 0.25 |
| Rack travel in mm : 13.15 Tolerance mm : + 0.05 | Rated speed rpm : 1570 guide sleeve |
| Del. quantity cm3/1000 strokes : 206.5 | travel mm : 13.50 Tolerance mm : + 0.50 |
| Tolerance cm3/1000 strokes : + 1.0 | FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 |
| Check tolerance cm3/1000s. : + 4.0 | Aneroid pressure + hPa : 1200 |
| Spreed | + Del. quantity + cm3/1000 strokes : 206.5 + Tolerance |
| Tolerance cm3/1000 strokes : 8.0 | cm3/1000 strokes : +- 1.0 + Check tolerance + cm3/1000S. : +- 4.0 |
| Check tolerance cm3/1000s. : 12.0 | Spreed Tolerance cm3/1000 strokes : 8.0 |
| Rated speed rpm : 500 | Check tolerance cm3/10008. : 12.0 |
| Rack travel in mm: 6.00 | |
| Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 22.5 | CONTROL LEVER |
| Tolerance cm3/1000 strokes : +- 3.0 | + control lever + position degree : 117.0 + tolerance degree : +- 6.0 |
| Check tolerance cm3/1000S. : +- 5.0 Spreed Tolerance | RATED SPEED rack travel num : 11.45 Rated speed rpm : 1170 |
| cm3/1000 strokes : 4.0 Check tolerance | Tolerance 1/min : + 15 |
| cm3/1000s. : 8.0 | rack travel mm : 7.95 Rated speed rpm : 1230 Tolerance 1/min : +- 5 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1350 |
| GUIDE SLEEVE TRAVEL | T Rated speed (pill . 1330 |
| Rated speed rpm : 1214 guide sleeve | 100 7015 |
| travel mm : 8.09 Tolerance mm : +- 0.15 | + LOW IDLE |
| Rated speed rpm : 500 guide sleeve travel mm : 1.82 | control lever position degree : 79.0 tolerance degree : +- 6.0 |

| Control lever dif Grad | : 38.0 |
|--------------------------------------|----------------------|
| tolerance degree | |
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 400 |
| CRT mm min. | : > 7.50 |
| Testing: | |
| Rated speed rpm | |
| rack travel mm Tolerance mm | : 6.00 : +- 0.20 |
| Rated speed rpm | : 500 |
| TOPOUE CONTROL | |
| TORQUE CONTROL Rated speed rpm | |
| rack travel mm Tolerance mm | : 13.15 : + 0.05 |
| | |
| Rated speed rpm rack travel mm | : 750 : 12.55 |
| Tolerance an | : 12.55 : + 0.20 |
| Rated speed rpm | : 1100 |
| rack travel mm Tolerance mm | : 12.60 : +- 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa | : 1000 : 1200 |
| | |
| Rated speed rpm Pressure hPa | : 1000 |
| rack travel mm Tolerance mm | : 10.15 : ← 0.20 |
| MEASUREMENT | |
| Rated speed rpm | : 1000 |
| Pressure hPa | : 720 |
| rack travel mm Tolerance mm | : 12.20 : + 0.30 |
| Pressure hPa | : 580 |
| rack travel mm | : 11.20 |

| · | | |
|------------------------------------|-------------|--------------|
| Start interlock | | |
| Rated speed rpm Rated speed rpm | : > | 100 380 |
| Check speed 1/min | : > | 80 |
| Check | | |
| speed 1/min | : < | 390 |
| FUEL DELIVERY CHA | RACTERIS | STICS |
| Aneroid pressure | | |
| hPa | : 120 | |
| Rated speed rpm | : 75 | 50 |
| Del. quantity | . 40 |) 7 F |
| cm3/1000 strokes Tolerance | : 15 | 7.5 |
| cm3/1000 strokes | : +- | 3.0 |
| Check tolerance | • | |
| cm3/1000s. | : +- | 6.0 |
| Spreed | | |
| Tolerance cm3/1000 strokes | • | 8.0 |
| Check tolerance | * | 0.0 |
| cm3/1000s. | : 1 | 12.0 |
| Aneroid pressure | | |
| hPa Batad anaad ana | : 120 | |
| Rated speed rpm rack travel mm | : 110 | .60 |
| Tolerance mm | : +- (| |
| Del. quantity | | |
| cm3/1000 strokes | : 19 | 20.5 |
| Tolerance cm3/1000 strokes | : +- | 2.0 |
| Check tolerance | • • | 0 |
| cm3/1000s. | : +- | 5.0 |
| Aneroid pressure | | |
| hPa | : | _ |
| Rated speed rpm Del. quantity | : 100 | JU |
| pel. quantity cm3/1000 strokes | : 12 | 24.0 |
| Tolerance | | .7.0 |
| cm3/1000 strokes | : +- | 1.0 |
| Check tolerance cm3/1000s. | | 4.0 |
| CIRD/ (UUUS. | ; +- | 4.0 |
| STARTING FUEL DEL | IVERY | |
| | | 00 |
| Rated speed rpm | : 10 | iU |

rack travel mm : 21.00
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 161.0
Tolerance
cm3/1000 strokes : + 20.0
Check tolerance
cm3/1000s. : + 25.0

LOW IDLE

Rated speed rpm : 500 Rack travel in mm : 6.00 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. 5.0 : +-Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 03.12.97 : ISO 4113

Combination No. : 0 402 736 906

Injection pump

Pump designation : PES6P120A120RS7416 EP type number : 0 412 726 959

Governor Governer design. : RQV400...1250PA1060

: -4K

Governer no.

: 0 421 815 514

Cust. part No. : 3928146

Customer-spec. information Customer : CDC Motor : 6BTA-A Power KW : 130.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter:

3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar $: \leftarrow 1.0$

Prestroke mm 3.60 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

Start of delivery blocking

*NW after s.o.d. : 6.25 Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.65 Tolerance mm : + 0.05

| Del. quantity cm3/1000 strokes : 160.5 | + Tolerance mm : + 0.25 + Rated speed rpm : 1690 |
|--|---|
| Tolerance cm3/1000 strokes : + 1.0 | guide sleeve travel mm : 11.50 Tolerance mm : + 0.50 |
| Check tolerance cm3/1000s. : + 4.0 | GUIDE SLEEVE POSITION |
| Spreed | + |
| Tolerance cm3/1000 strokes : 8.0 | control lever position degree : VH Rated speed rpm : 1390 |
| Check tolerance cm3/1000s. : 12.0 | Rack travel in mm: 12.60 |
| Rated speed rpm : 420 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Rack travel in mm : 6.00 | + Rated speed rpm : 1250 + Aneroid pressure |
| Tolerance mm : + 0.10 | + hPa : 1200 |
| Del. quantity cm3/1000 strokes : 15.0 | + Del. quantity + cm3/1000 strokes : 160.5 |
| Tolerance | + Tolerance |
| cm3/1000 strokes : + 3.0 | + cm3/1000 strokes : +- 1.0 |
| Check tolerance cm3/1000s. : + 5.0 | + Check tolerance + cm3/1000s. : +- 4.0 |
| Spreed | + Spreed |
| Tolerance cm3/1000 strokes : 4.0 | + Tolerance + cm3/1000 strokes : 8.0 |
| Check tolerance | + Check tolerance |
| cm3/1000s. : 8.0 | + cm3/1000s. : 12.0 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | CONTROL LEVER control lever |
| GUIDE SLEEVE TRAVEL | + position degree : 117.0 |
| | tolerance degree : + 4.0 |
| Rated speed rpm : 1329 guide sleeve | + RATED SPEED |
| travel mm : 7.83 | + rack travel mm : 12.60 |
| Tolerance mm : + 0.15 | Rated speed rpm : 1325 Tolerance 1/min : +- 15 |
| Rated speed rpm : 400 | + |
| guide sleeve travel mm : 1.44 | + rack travel mm : 4.00 + Rated speed rpm : 1475 |
| Tolerance mm : + 0.20 | Tolerance 1/min : + 5 |
| Rated speed rpm : 939 guide sleeve | rack travel mm : 0.50 Tolerance mm : + 0.50 |
| travel mm : 5.18 | Rated speed rpm : 1550 |
| Tolerance mm : + 0.25 | 1 |
| Rated speed rpm : 640 guide sleeve | |
| travel mm : 3.56 | + LOW IDLE |

K04

| control lever position degree tolerance degree | : 71.0 : +- 4.0 |
|---|--|
| Control lever dif Grad tolerance degree | |
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 300 |
| CRT mans min. | : > 5.80 |
| Testing: | • |
| Rated speed rpm rack travel mm Tolerance mm | : 420 : 6.00 : ← 0.10 |
| Rated speed rpm | : 425 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1250 : 13.65 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 800 : 11.85 : + 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | : 500 : 11.60 : + 0.20 |
| ANEROID/ALTITUDE COMPENSATOR TEST | ويه جيشانات الانتقالة المستدين ويهيش الانتقالة المستديرة ويهينها الانتقالية والمستديرة |
| SETTING | |
| Rated speed rpm Pressure hPa | : 1250 : 1200 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 1250 : - : 10.40 : + 0.20 |
| MEASUREMENT | |
| Rated speed rpm | : 1250 |
| Pressure hPa rack travel mm Tolerance mm | : 375 : 12.70 : + 0.30 |

| Pressure hPa rack travel mm Tolerance mm | : 260 : 11.60 : + 0.20 |
|--|-------------------------------|
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 200 : < 340 |
| Check speed 1/min Check | : > 190 |
| speed 1/min | : < 360 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm | : 1200 : 800 |
| Del. quantity cm3/1000 strokes | |
| Tolerance cm3/1000 strokes Check tolerance | : ← 3.0 |
| cm3/1000s. Spreed | : +- 6.0 |
| Tolerance cm3/1000 strokes | : 8.0 |
| Check tolerance cm3/1000S. | : 12.0 |
| rack travel mm Tolerance mm | : 11.60 : + 0.20 |
| Aneroid pressure | : - |
| Rated speed rpm Del. quantity cm3/1000 strokes | : 1250 : 107.5 |
| Tolerance cm3/1000 strokes | |
| Check tolerance cm3/1000S. | : +- 4.0 |
| STARTING FUEL DEL | IVERY |
| Set starting CRT | at K-cam. |
| Rated speed rpm rack travel mm Tolerance mm | : 100 : 14.10 : +- 0.50 |

K05

| Del. quantity cm3/1000 strokes | : | 155.0 |
|--|------|-------|
| Tolerance cm3/1000 strokes Check tolerance | : +- | 20.0 |

cm3/1000s. : +- 25.0

LOW IDLE

Rated speed rpm : 420 Rack travel in mm: 6.00 Tolerance mm : **←** 0.10 Del. quantity cm3/1000 strokes : 15.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 02.12.97 : ISO 4113

Combination No. : 0 402 776 820

Injection pump

Pump designation : PES6P120A720RS7382

EP type number : 0 412 726 943

Governor

Governer design. : RSV400...1100P0A547

Governer no.

: 0 421 833 488

Cust. part No. : RE501785

Customer-spec. information Customer : DEERE

Motor

: 6081 AF001

Power KW

: 205.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 079

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

K07

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 3.60 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Start of delivery mark

*NW after s.o.d. : 7.50 : **←** 0.50 Tolerance

Check

tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel

Difference * CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

14.00

| † | |
|---|--|
| Rack travel in mm : 11.80 Tolerance mm : + 0.05 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Del. quantity cm3/1000 strokes : 198.0 | Rated speed rpm : 1100 Ameroid pressure |
| Tolerance cm3/1000 strokes : + 1.0 | hPa : 1400 Del. quantity cm3/1000 strokes : 198.0 |
| Check tolerance cm3/1000s. : + 4.0 | Tolerance cm3/1000 strokes : +- 1.0 Check tolerance |
| Spreed | cm3/1000s. : +- 4.0 Spreed Tolerance |
| Tolerance cm3/1900 strokes : 5.0 | cm3/1000 strokes : 5.0 Check tolerance |
| Check tolerance cm3/1000s. : 9.0 | cm3/1000s. : 9.0 |
| | CONTROL LEVER |
| Rated speed rpm : 400 | control lever position degree : 95.0 |
| Rack travel in mm: 5.85 Tolerance mm: + 0.10 Del. quantity | tolerance degree : +- 4.0 RATED SPEED |
| cm3/1000 strokes : 28.5 | rack travel mm : 10.80 Rated speed rpm : 1170 |
| cm3/1000 strokes : + 3.0 + Check tolerance cm3/1000s. : + 5.0 + 5.0 | Tolerance 1/min : +- 5 rack travel mm : 4.00 |
| Spreed + Tolerance + | Rated speed rpm : 1225 Tolerance 1/min : +- 5 |
| cm3/1000 strokes : 8.0 + Check tolerance + cm3/1000s. : 12.0 + cm3/1000s. | rack travel mm : 0.85 Tolerance mm : +- 0.55 |
| - | Rated speed rom : 1300 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | rack travel mm : 4.00 Rated speed rpm : 1230 Tolerance 1/min : +- 15 |
| GUIDE SLEEVE POSITION | |
| control lever | LOW IDLE |
| position degree : -3 Rated speed rpm : 800 | control lever position degree : 72.0 |
| Rack travel in mm: 0.50 Tolerance mm: + 0.20 | tolerance degree : +- 4.0 |
| governor spring pre-tension + | Setting point w/out bumper spring Rated speed rpm : 400 |
| click setting x : 3.25 | rack travel mm : 5.35 Tolerance mm : +- 0.10 |

Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm 400 rack travel mm 5.85 : **←** 0.10 Tolerance mm TORQUE CONTROL 1100 Rated speed rpm : rack travel mm : 11.80 Tolerance mm : **←** 0.05 Rated speed rpm 800 12.40 rack travel mm : **←** 0.10 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa 1400 Rated speed rpm 500 Pressure hPa 8.75 rack travel mm Tolerance mm : **←** 0.10 **MEASUREMENT** Rated speed rpm 500 Pressure hPa 880 : 11.50 rack travel mm : : **←** 0.20 Tolerance mm 450 Pressure hPa rack travel mm 9.70 : **←** 0.05 Tolerance mm FUEL DELIVERY CHARACTERISTICS

Aneroid pressure 1400

hPa Rated speed rpm 800 Del. quantity cm3/1000 strokes : 211.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance : +- 6.0 cm3/1000s.

Aneroid pressure hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.0 : +-

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : **←** 0.50 Del. quantity cm3/1000 strokes : 105.0 Toleranse cm3/1000 strokes : \leftarrow 20.0 Check tolerance cm3/1000s. : +- 25.0

LOW IDLE

Rated speed rpm : 400 Rack travel in mm : 5.85 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 28.5 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.12.97 Test oil : ISO 4113

Combination No. : 0 402 776 825

Injection pump

Pump designation : PES6P120A720RS7382

EP type number : 0 412 726 943

Governor

Governer design. : RSV400...1100P0A574

: -7

Governer no. : 0 421 833 496

Cust. part No. : RE501786

Customer—spec. information Customer : DEERE

Motor : 6081 AF001 Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 079

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

K10

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 7.50 Tolerance : + 0.50 Check

tolerance $^{\circ}NW$: + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 14.00 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

1100

| Rack travel in mm : Tolerance mm : | 11.80 ← 0.05 |
|--|-----------------|
| ioterance mm : | - 0.03 |
| Del. quantity cm3/1000 strokes : | 198.0 |
| Tolerance cm3/1000 strokes : | + 1.0 |
| Check tolerance cm3/1000s. : | + 4.0 |
| Spreed | |
| Tolerance cm3/1000 strokes : | 5.0 |
| Check tolerance cm3/1000s. : | 9.0 |
| • | |
| Rated speed rpm : | 400 |
| Rack travel in mm : | 5.85 |
| Tolerance mm : | + 0.10 |
| Del. quantity cm3/1000 strokes : | 28.5 |
| Tolerance | 20.3 |
| CIME / 1000 00 000000 1 | ← 3.0 |
| Check tolerance cm3/1000s. | ← 5.0 |
| Spreed | |
| Tolerance cm3/1000 strokes : | 8.0 |
| Check tolerance | |
| cm3/1000s. : | 12.0 |
| (B) SETTING OF INJECTION OF INJ | CTION PUMP |
| GUIDE SLEEVE POSITIO | DN |
| control lever position degree : Rated speed rpm : | - 3 800 |
| Rack travel in mm : Tolerance mm : | 0.50 ← 0.20 |
| governor spring pre-tension click setting x : | 3.25 |

| FULL LOAD DELIVER | Y AT FULL LOAD STOP |
|-------------------------------------|---------------------|
| Rated speed rpm Ameroid pressure | : 1100 |
| hPa Del. quantity | : 1400 |
| cm3/1000 strokes Tolerance | : 198.0 |
| cm3/1000 strokes Check tolerance | : +- 1.0 |
| cm3/1000s. | : + 4.0 |
| Spreed Tolerance | |
| cm3/1000 strokes Check tolerance | : 5.0 |
| cm3/1000s. | : 9.0 |
| | |
| CONTROL LEVER | |
| control lever | 05.0 |
| position degree tolerance degree | : 95.0 : +- 4.0 |
| RATED SPEED | |
| rack travel mm Rated speed rpm | : 10.80 : 1170 |
| Tolerance 1/min | : +- 5 |
| rack travel mm | : 4.60 |
| Rated speed rpm Tolerance 1/min | : 1225 : +- 5 |
| rack travel mm | : 0.85 |
| Tolerance mm Rated speed rpm | : +- 0.55 : 1300 |
| | |
| rack travel mm Rated speed rpm | : 4.00 : 1230 |
| Tolerance 1/min | : +- 15 |
| | |
| LOUITOUE | |
| LOW IDLE | |

| control lever position degree : tolerance degree : +- | 72.0 4.0 |
|---|---------------------|
| Setting point w/out bu | mper spring |
| Rated speed rpm : rack travel mm : +- | 400 5.35 0.10 |

Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm 400 : rack travel mm 5.85 : + 0.10Tolerance nm TORQUE CONTROL Rated speed rom : 1100 rack travel mm 11.80 : **←** 0.05 Tolerance mm 800 Rated speed rpm 12.40 rack travel mm : + 0.10Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 : 1400 Pressure hPa Rated speed rpm 500 Pressure hPa 8.75 rack travel mm Tolerance mm : + 0.10**MEASUREMENT** Rated speed rpm : 500 880 Pressure hPa 11.50 rack travel mm : + 0.20Tolerance mm Pressure hPa 450 9.70 rack travel mm : + 0.05Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1400 hPa Rated speed rpm : 800 Del. quantity

: +- 6.0 cm3/1000s. Aneroid pressure 500 Rated speed rpm : Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. STARTING FUEL DELIVERY Rated speed rpm rack travel mm : 20.50 : + 0.50Tolerance mm Del. quantity cm3/1000 strokes : 105.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : + 25.0 LOW IDLE Rated speed rpm : 400 Rack travel in mm: 5.85 : + 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 28.5 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Check tolerance

End of test specification sheet

Tolerance

cm3/1000 strokes : 211.0

cm3/1000 strokes : + 3.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 06.01.98 : ISO 4113

Combination No. : 9 400 030 695

Injection pump

Pump designation: PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1250AOC825R

6overner no. : 9 420 034 701

Cust. part No. : 3928665

Customer-spec. information Customer : CDC Motor : 4BT3.9 Power KW : 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0 Test pressure bar :

Prestroke mm : 2.45

Tolerance mm

: **←** 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

: +- 1.50 Tolerance mm

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 8.00

Tolerance : + - 0.50

Check

tolerance $^{\circ}NW$: + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.55 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 106.0

| | - + Check tolerance |
|---|--|
| Tolerance cm3/1000 strokes : + 1.0 | + cm3/1000S. : + 3.0 + Spreed + Tolerance |
| Check tolerance cm3/1000s. : + 3.0 | cm3/1000 strokes : 4.0 Check tolerance |
| Spreed | _ + cm3/1000s. : 6.5 |
| Tolerance cm3/1000 strokes : 4.0 | CONTROL LEVER |
| Check tolerance cm3/1000s. : 6.5 | control lever position degree : 114.0 tolerance degree : + 4.0 |
| Rated speed rpm : 475 | + RATED SPEED + rack travel mm : 11.50 + Rated speed rpm : 1335 |
| Rack travel in mm: 5.80 Tolerance mm: + 0.10 | + Tolerance 1/min : +- 5 |
| Del. quantity cm3/1000 strokes : 20.5 Tolerance | + rack travel mm : 6.80 + Rated speed rpm : 1395 + Tolerance 1/min : + 5 |
| cm3/1000 strokes : +- 2.0 Check tolerance | rack travel mm : 0.85 |
| cm3/1000s. : + 4.5 Spreed Tolerance | Tolerance mm : + 0.55 Rated speed rpm : 1500 |
| cm3/1000 strokes : 6.0 Check tolerance | rack travel mm : 6.80 Rated speed rpm : 1395 |
| cm3/1000s. : 8.0 | + Tolerance 1/min : +- 15 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | |
| | + LOW IDLE |
| GUIDE SLEEVE POSITION | control lever position degree : 87.0 tolerance degree : + 4.0 |
| control lever position degree : - 3 | Control lever difference Grad: 27.0 |
| Rated speed rpm : 800 Rack travel in mm : 0.50 | + Grad : 27.0 + tolerance degree : + 4.0 |
| Tolerance mm : + 0.20 | Setting point w/out bumper spring |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 475 rack travel mm : 5.30 Tolerance mm : + 0.10 |
| Rated speed rpm : 1250 Aneroid pressure | Rated speed rpm : 100 |
| hPa : 1000 Del. quantity cm3/1000 strokes : 106.0 | CRT mm min. : > 19.00 |
| Tolerance cm3/1000 strokes : + 1.0 | Testing: |
| | + Rated speed rpm : 475 |

| Rated speed rpm : 1250 rack travel mm : 12.55 Folerance mm : + 0.05 Rated speed rpm : 750 RATEDID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1000 Rated speed rpm : 500 Pressure hPa : - 11.50 Folerance mm : 11.50 Folerance mm : + 0.10 MEASUREMENT Rated speed rpm : 500 Pressure hPa : - 0.20 Pressure hPa : 600 Pressure hPa : 600 Pressure hPa : 600 Pressure hPa : 600 Pressure hPa : 460 Folerance mm : + 0.20 Pressure hPa : 460 Folerance mm : 460 | rack travel mm Tolerance mm | : 5.80 : + 0.10 |
|--|--|--------------------|
| ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1000 Rated speed rpm : 500 Pressure hPa : - Prack travel mm : 11.50 Folerance mm : + 0.10 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 600 Pressure hPa : 600 Pressure hPa : 12.30 Folerance mm : 12.30 Folerance mm : 12.30 Pressure hPa : 460 Prack travel mm : 11.75 Folerance mm : + 0.20 | TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 12.55 |
| COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1000 Rated speed rpm : 500 Pressure hPa : Tack travel mm : 11.50 Folerance mm : + 0.10 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 600 Pressure hPa : 600 Pressure hPa : 12.30 Folerance mm : 12.30 Folerance mm : 12.30 Pressure hPa : 460 Prack travel mm : 11.75 Folerance mm : + 0.20 | Rated speed rpm | : 750 |
| Rated speed rpm : 500 Pressure hPa : 1000 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 11.50 Folerance mm : + 0.10 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 600 Pressure hPa : 600 Folerance mm : 12.30 Folerance mm : 12.30 Pressure hPa : 460 Prack travel mm : 11.75 Folerance mm : + 0.20 | ANEROID/ALTITUDE COMPENSATOR TEST | |
| Pressure hPa : 1000 Rated speed rpm : 500 Pressure hPa : | SETTING | |
| Pressure hPa : 11.50 Folerance mm : 11.50 Folerance mm : 40.10 Pressure hPa : 600 Folerance mm : 12.30 Folerance mm : 12.30 Folerance mm : 460 Folerance mm : 11.75 Folerance mm : 11.75 Folerance mm : 40.20 | Rated speed rpm Pressure hPa | |
| Rated speed rpm : 500 Pressure hPa : 600 Prack travel mm : 12.30 Folerance mm : | Pressure hPa | : 11.50 |
| Pressure hPa : 600 rack travel mm : 12.30 Folerance mm : 70.20 Pressure hPa : 460 rack travel mm : 11.75 Folerance mm : + 0.20 | MEASUREMENT | |
| rack travel mm : 12.30 Folerance mm : 70.20 Pressure hPa : 460 rack travel mm : 11.75 Folerance mm : + 0.20 | Rated speed rpm | : 500 |
| rack travel mma : 11.75 Folerance mm : + 0.20 | Pressure hPa rack travel mm Tolerance mm | : 12.30 |
| FUEL DELIVERY CHARACTERISTICS | Pressure hPa rack travel mm Tolerance mm | : 11.75 |
| | FUEL DELIVERY CHA | ARACTERISTICS |
| | Aneroid pressure | |
| Rated speed rpm : 500 | hPa Rated speed rpm | 500 |
| cm3/1000 strokes : 80.5 | Del. quantity cm3/1000 strokes | : 80.5 |
| cm3/1000 strokes : +- 1.0 | Folerance cm3/1000 strokes | : + 1.0 |
| | Check tolerance cm3/1000s. | : ← 3.0 |

| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : +- | 120.0 10.0 15.0 | |
|---|-----------|---------------------------------------|--|
| LOW IDLE | | · · · · · · · · · · · · · · · · · · · | |
| Rated speed rpm | : | 475 | |
| Rack travel in mm Tolerance mm | : : +- | 5.80 0.10 | |
| Del. quantity cm3/1000 strokes | : | 20.5 | |
| Tolerance cm3/1000 strokes | : +- | 2.0 | |
| Check tolerance cm3/1000s. Spreed | : +- | 4.5 | |
| | : | 6.0 | |
| Check tolerance cm3/1000s. | : | 8.0 | |
| | | | |

End of test specification sheet

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 06,01,98 : ISO 4113

Combination No. : 9 400 030 733

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. :

Governer no.

: 9 420 034 712

Cust. part No. : 3930149

Customer-spec. information

Customer : CDC

Motor

: 4BT3.9

Power KW

: 78.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: **←** 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

K16

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

2.45 Prestroke mm : **←** 0.05 Tolerance mm

Check

tolerance mm : **←** 0.10

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

: 1-3-4-2 Firing order

: 0-90-180-270 Phasing

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery blocking

"NW after s.o.d. : 7.50 Tolerance

: +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 12.55

Tolerance mm

: +- 0.05

| Del. quantity | - Aneroid pressure |
|---------------------------------------|------------------------------------|
| cm3/1000 strokes : 105.5 | hPa : 1000 |
| | Pel. quantity |
| Tolerance | cm3/1000 strokes : 105.5 |
| cm3/1000 strokes : +- 1.0 | Tolerance |
| cms/rood strokes . += 1.0 | |
| Obs. d. Aslanasa | cm3/1000 strokes : + 1.0 |
| Check tolerance | - Check tolerance |
| cm3/1000s. : +- 3.0 | cm3/1000s. : +- 3.0 |
| | Spreed |
| Spreed | Tolerance |
| 4 | - cm3/1000 strokes : 4.0 |
| Tolerance | - Check tolerance |
| cm3/1000 strokes : 4.0 | - cm3/1000s. : 6.5 |
| | |
| Check tolerance | |
| cm3/1000s. : 6.5 | |
| · · · · · · · · · · · · · · · · · · · | COATEROL LEVER |
| | CONTROL LEVER |
| 1 | |
| 4 | control lever |
| Rated speed rpm : 425 - | f position degree : 110.0 |
| 1 | tolerance degree : +- 4.0 |
| Rack travel in mm: 6.00 | <u>-</u> |
| Tolerance mm : + 0.10 | RATED SPEED |
| Del. quantity | rack travel mm : 11.50 |
| cm3/1000 strokes : 20.5 | Rated speed rpm : 1270 |
| Tolerance | Tolerance 1/min : + 5 |
| cm3/1000 strokes : + 2.0 | l locerance minition of the second |
| | |
| Check tolerance | rack travel mm : 6.70 |
| cm3/1000s. : + 4.5 | - Rated speed rpm : 1340 |
| Spreed - | Tolerance 1/min : +- 5 |
| Tolerance | - |
| cm3/1000 strokes : 6.0 | rack travel mm : 0.85 |
| Check tolerance | Tolerance mm : +- 0.55 |
| cm3/1000s. : 8.0 | - Rated speed rpm : 1400 |
| | L Trace opeca (pill 1 1100 |
| | rack travel mm : 6.70 |
| (B) SETTING OF INJECTION PUMP | Rated speed rpm : 1340 |
| WITH GOVERNOR | |
| MTIH POVEKNOR | Tolerance 1/min : +- 15 |
| | |
| † | - |
| | - |
| GUIDE SLEEVE POSITION | |
| 4 | - LOW IDLE |
| 4 | |
| control lever | |
| position degree : -3 | control lever |
| Rated speed rpm : 800 | position degree : 87.0 |
| varen sheen i hii ! onn | |
| Onal Angual in mar O.EO | tolerance degree : +- 4.0 |
| Rack travel in mma: 0.50 | Control lave diff. |
| Tolerance mm : + 0.20 | Control lever difference |
| . 1 | - Grad : 23.0 |
| governor spring | tolerance degree : +- 4.0 |
| pre-tension - | - |
| click setting x : 4.75 | Setting point w/out bumper spring |
| | |
| | Rated speed rpm : 425 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | rack travel mm : 5.50 |
| TOTE FOUR METALLY MI LOFF FOUR DIOL | |
| 0.4.4 | Tolerance mm : +- 0.10 |
| Rated speed rpm : 1200 - | Data di anno di anno di Anno |
| 1 | - Rated speed rpm : 100 |
| | |

| CRT man main. | : > 19.00 |
|--|-----------------------------------|
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 425 : 6.00 : ← 0.10 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1200 : 12.55 : + 0.05 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa | : 500 : 1000 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | ; - |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 660 : 12.50 : ← 0.20 |
| Pressure hPa rack travel mm Tolerance mm | : 460 : 11.50 : ← 0.20 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : - : 500 : 80.5 : ← 1.0 |
| Check tolerance cm3/1000s. | : +- 3.0 |

| Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance | : | +- | 100 20.50 0.50 120.0 |
|---|---|----|-------------------------------|
| cm3/1000 strokes Check tolerance | : | +- | 10.0 |
| cm3/1000s. | : | +- | 15.0 |
| | | | |

| LOW IDLE | | |
|--|-----------|--------------|
| Rated speed rpm | : | 425 |
| Rack travel in mm Tolerance mm Del. quantity | : : +- | 6.00 0.10 |
| cm3/1000 strckes | • | 20.5 |
| Tolerance cm3/1000 strokes Check tolerance | : +- | 2.0 |
| cm3/1000s. Spreed | : +- | 4.5 |
| Tolerance cm3/1000 strokes | : | 6.0 |
| Check tolerance cm3/1000s. | : | 8.0 |
| | | |

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.01.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 006

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1100AOC88OR

Governer no. : F 002 A20 206

Cust. part No. : 3930154

Customer—spec. information Customer : CDC Motor : 4BT3.9 Power KW : 63.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

ber : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : ← 0.05
Check
tolerance mm : ← 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 6.50 Tolerance : + 0.50 Check

SHECK

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.80 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 97.5

K19

| Tolerance | + Tolerance |
|--------------------------------------|--------------------------------------|
| cm3/1000 strokes : +- 1.0 | + cm3/1000 strokes : $+$ 1.0 |
| | + Check tolerance |
| Check tolerance | |
| | (|
| $cm3/1000S.$: \leftarrow 3.0 | + Spreed |
| | + Tolerance |
| Spreed | + cm3/1000 strokes : 4.0 |
| 561 CCC | + Check tolerance |
| Talesana | |
| Tolerance | + cm3/1000s. : 6.5 |
| cm3/1000 strokes : 4.0 | + |
| | + |
| Check tolerance | |
| cm3/1000s. : 6.5 | + CONTROL LEVER |
| | |
| | + control lever |
| | |
| | + position degree : 108.0 |
| Rated speed rpm : 475 | + |
| | + RATED SPEED |
| Rack travel in mm : 5.80 | + rack travel mm : 10.80 |
| Tolerance mm : ← 0.10 | + Rated speed rpm : 1155 |
| | |
| Del. quantity | + Tolerance 1/min : + 5 |
| cm3/1000 strokes : 20.5 | † |
| Tolerance | + rack travel mm : 6.00 |
| cm3/1000 strokes : + 2.0 | + Rated speed rpm : 1220 |
| Check tolerance | + Tolerance 1/min : +- 5 |
| cm3/1000s. : +- 4.5 | 1 occidince 1/18/11 |
| | 7 |
| Spreed | + rack travel mm : 0.85 |
| Tolerance | † Tolerance mm : + 0.55 |
| cm3/1000 strokes : 6.0 | + Rated speed rpm : 1400 |
| Check tolerance | 1 |
| cm3/1000s. : 8.0 | rack travel mm : 6.00 |
| UNS/ 10003 0.0 | |
| | + Rated speed rpm : 1220 |
| . | + Tolerance 1/min : +- 15 |
| (B) SETTING OF INJECTION PUMP | + |
| WITH GOVERNOR | + |
| | + |
| | |
| | - LOW IDLE |
| GUIDE SLEEVE POSITION | 1 200 2022 |
| ANTAR APPEAR I AATITAIL | 1 |
| | T control lever |
| southed laves | |
| control lever | position degree : 89.0 |
| position degree : - 3 | † |
| Rated speed rpm : 800 | + Control lever difference |
| • | + Grad : 19.0 |
| Rack travel in mm : 0.50 | tolerance degree : + 4.0 |
| Toterance mm : + 0.20 | 1 total dillo deglice Tio |
| TOLETATIVE IMP | T continue maint of the boson of the |
| • | + Setting point w/out bumper spring |
| governor spring | + |
| pre-tension | + Rated speed rpm : 475 |
| click setting 4 : 5.00 | rack travel mm : 5.30 |
| TOTAL OCTORNAL TO TOTAL | + Tolerance mm : + 0.10 |
| | 1 Total grace man . T U. (U |
| FILL LOAD OF TUPON AT FULL LOAD OTOD | T Dated aread are 100 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | + Rated speed rpm : 100 |
| | † |
| Rated speed rpm : 1100 | + CRT mm min. : > 19.00 |
| Aneroid pressure | + |
| hPa : - | † Testing: |
| Del. quantity | 1 |
| | Pated speed nom . 1.75 |
| cm3/1000 strokes : 97.5 | + Rated speed rpm : 475 |
| | |

K20

5.80 rack travel mm : +- 0.10 Tolerance mm

TORQUE CONTROL

1100 Rated speed rpm : rack travel mm : 11.80 Tolerance ma : **←** 0.05

Rated speed rpm 750 : rack travel mm 12.25 : Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm 750

Del. quantity

cm3/1000 strokes : 100.5

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s. 4.0

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : + 0.50 Del. quantity

cm3/1000 strokes : 122.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm: 5.80 : **←** 0.10 Tolerance mm

Del. quantity

cm3/1000 strokes : 20.5

Tolerance

2.0 cm3/1000 strokes : +

Check tolerance

cm3/1000s.4.5

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s.8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 06.01.98 : ISO 4113

Combination No. : F 002 A0Z 043

Injection pump

Pump designation : PES6A95D320/3RS2881.

EP type number : 9 410 037 215

Governor

Governer design. : RSV500...1100A0C925R

Governer no. : F 002 A20 233

Cust. part No. : 3932478

Customer-spec. information Customer : CDC Motor : 6BT

Power KW

: 90.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : - 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

*NW after s.o.d. : 7.00 : +- 0.50 Tolerance

Check

tolerance *NW : **←** 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 10.85

Tolerance mm : \leftarrow 0.05

| 1 | Aneroid pressure |
|---|---|
| Del. quantity cm3/1000 strokes : 86.0 | hPa : 900 Del. quantity |
| Tolerance | cm3/1000 strokes : 86.0 Tolerance |
| cm3/1000 strokes : $+$ 1.0 | cm3/1000 strokes : +- 1.0 Check tolerance |
| Check tolerance cm3/1000s. : + 3.0 | cm3/1000s. : +- 3.0 Spreed Tolerance |
| Spreed | cm3/1000 strokes : 3.5 Check tolerance |
| Tolerance cm3/1000 strokes : 3.5 | cm3/1000s. : 6.0 |
| Check tolerance cm3/1000s. : 6.0 | CONTROL LEVER |
| | control lever |
| <u> </u> | position degree : 94.0 |
| Rated speed rpm : 500 | tolerance degree : + 4.0 |
| Rack travel in mm: 5.40 | RATED SPEED |
| Tolerance mm : + 0.10 | rack travel mm : 9.80 |
| Del. quantity + cm3/1000 strokes : 18.5 + | Rated speed rpm : 1165 Tolerance 1/min : +- 5 |
| Tölerance | Total alice Trial III . The S |
| cm3/1000 strokes : + 2.0 + | rack travel mm : 6.00 |
| Check tolerance | Rated speed rpm : 1225 |
| cm3/1000s. : + 4.5 | Tolerance 1/min : + 5 |
| Spreed + | mode through the common O OF |
| Tolerance + cm3/1000 strokes : 3.5 + | rack travel mm : 0.85 Tolerance mm : + 0.55 |
| Check tolerance | Rated speed rpm : 1350 |
| cm3/1000s. : 5.5 | |
| + | rack travel mm : 6.00 |
| | Rated speed rpm : 1230 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | Tolerance 1/min : +- 15 |
| ‡ | |
| GUIDE SLEEVE POSITION + | LOW IDLE |
| control lever | control lever |
| position degree : -3 | position degree : 80.0 |
| Rated speed rpm : 800 | tolerance degree : +- 4.0 |
| Rack travel in mm: 0.50 | Control lever difference |
| Tolerance mm : + 0.20 | Grad : 14.0 |
| + | tolerance degree : +- 6.0 |
| governor spring + pre-tension + | Setting point w/out bumper spring |
| click setting x : 3.50 | serring bottle wroat pumper spring |
| + | Rated speed rpm : 500 |
| _ | rack travel mm : 4.90 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Tolerance man : + 0.10 |
| Rated speed rpm : 1100 | Rated speed rpm : 100 |

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 500 rack travel mm : 5.40 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 10.85 Tolerance mm : + 0.05

Rated speed rpm : 800 rack travel mm : 11.55 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800 Pressure hPa : -

MEASUREMENT

Pressure hPa : 800 rack travel mm : 11.05 Tolerance mm : + 0.30

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 900 Rated speed rpm : 800 Del. quantity

cm3/1000 strokes : 96.0

Tolerance

cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 120.5

Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 15.0

LOW IDLE

Rated speed rpm : 500

Rack travel in mm: 5.40
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 18.5
Tolerance

cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. Spreed

Tolerance cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

: +-

4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.01.98 : ISO 4113

Combination No. : 0 400 863 026

Injection pump

Pump designation: PES3A950410/3RS2939.

EP type number

: 0 410 893 995

Governor

Governer design. : RSV325...1250A5C858L

Governer no.

: 0 420 232 621

Cust. part No. : 0423 2520 KY

Customer-spec. information

: KHD Customer Motor

: F3L913 COM1

Power KW

: 44.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar

Test lines : 1 680 750 014

Outside diameter :

6.0

x inside diameter : 2.0 600 x Length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 3.00 Tolerance mm : + 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm: 17.50 : +- 1.50 Tolerance mm

: 1- 3- 2 Firing order

Phasing : 0-120-240 Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 9.80

Tolerance nm: $\leftarrow 0.05$

Rack travel in mm : 9.00 Tolerance $m_{\rm fit}$: \leftarrow 0.10

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever

position degree : FREE Rated speed rpm : 800

Rack travel in mm : 0.50 Tolerance mm : + 0.20

governor spring

pre-tension

click setting x : 5.00

CONTROL LEVER

control lever

position degree : 108.0 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 8.80 Rated speed rpm : 1295 Tolerance 1/min : +- 5

rack travel mm : 4.00 Rated speed rpm : 1345 Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1530

rack travel mm : 4.00 Rated speed rpm : 1370 Tolerance 1/min : + 15

LOW IDLE

control lever

position degree : 76.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 8.50
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

K26

Testing:

Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 9.80 Tolerance mm : ← 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.50 Tolerance mm : + 0.75

LOW IDLE

Rack travel in mm : 9.00 Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 05.01.98 : ISO 4113

Combination No. : 0 400 864 112

Injection pump

Pump designation : PES4A95D410/3RS2934

EP type number : 0 410 894 983

Governor

Governer design. : RSV325...1250A5C858L

6overner no. : 0 420 232 621

Cust. part No. : 0423 2525 KY

Customer-spec. information Customer : KHD

Motor

: F4L913 COM1

Power KW

: 59.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: ← 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

Tolerance bar

: 173.5 : ← 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : + 3.00 : **←** 0.05

Check

tolerance min : + 0.10

Rack travel in mm: 17.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Phasing Tolerance : **←** 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 9.80

Tolerance mm : \leftarrow 0.05

Rack travel in mm: 9.00 Tolerance m: \leftarrow 0.10

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever

position degree : FREE Rated speed rpm : 800

Rack travel in mm: 0.50 Tolerance mm: + 0.20

governor spring

pre-tension

click setting x : 5.00

CONTROL LEVER

control lever

position degree : 108.0 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.80
Rated speed rpm : 1295
Tolerance 1/min : + 5

rack travel mm : 4.00 Rated speed rpm : 1345 Tolerance 1/min : + 15

rack travel man : 0.85
Tolerance man : + 0.55
Rated speed rpm : 1530

rack travel mm : 4.00 Rated speed rpm : 1370 Tolerance 1/min : +- 15

LOW IDLE

control lever

position degree : 76.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 8.50
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 540
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 9.80 Tolerance mm : + 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.50 Tolerance mm : + 0.75

LOW IDLE

Rack travel in mm : 9.00 Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.01.98 Test oil : ISO 4113

Combination No. : 0 400 864 114

Injection pump

Pump designation : PES4A95D410/3RS2934

EP type number : 0 410 894 983

6overnor

Governer design. : RSV325...1250A5C861L

Governer no. : 0 420 232 624

Cust. part No. : 0423 2527 KY

Customer-spec. information

Customer : KHD

Motor

: F4L913 COM1 : 59.0

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : ← 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 17.50

Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 9.80

Tolerance mm: \leftarrow 0.05

Rack travel in mm: 9.00 Tolerance mm : \leftarrow 0.10

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever

position degree : FREE Rated speed rpm : 800

Rack travel in mm : 0.50 Tolerance mm : + 0.20

governor spring

pre-tension

click setting x : 5.00

CONTROL LEVER

control lever

position degree : 108.0 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.80
Rated speed rpm : 1295
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1345
Tolerance 1/min : + 15

rack travel non : 0.85
Tolerance non : +- 0.55
Rated speed rpm : 1530

rack travel mm : 4.00 Rated speed rpm : 1370 Tolerance 1/min : +- 15

LOW IDLE

control lever

position degree : 76.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 540
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 9.80 Tolerance mm : + 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.50 Tolerance mm : +- 0.75

LOW IDLE

Rack travel in mm : 9.00 Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 05.01.98 Edition Test oil : ISO 4113

Combination No. : 0 400 865 031

Injection pump

Pump designation : PES5A95D410/3RS2936

EP type number : 0 410 895 969

Governor

Governer design. : RSV325...1250A5c885L

Governer no. : 0 420 232 637

Cust. part No. : 0423 2530 KY

Customer-spec. information

Customer : KHD

: F5L 912 COM1 Motor

Power KW : 68.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

3.00 Prestroke mm : **←** 0.05 Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm: 17.50 Tolerance mm : + 1.50

Firing order : 1-3-5-4-2

: 0-72-144-216-288 Phasing

Tolerance : **←** 0.50

Check

tolerance $^{\circ}NW$: + 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 10.50

Tolerance mm : \leftarrow 0.05

Rack travel in mm: 9.80 Tolerance mm : + 0.10

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever

position degree : FREE Rated speed rpm : 800

Rack travel in mm : 0.50 Tolerance mm : + 0.20

governor spring

pre-tension

click setting x: 5.00

CONTROL LEVER

control lever

position degree : 110.0 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.50
Rated speed rpm : 1295
Tolerance 1/min : + 5

rack travel mm : 4.00 Rated speed rpm : 1355 Tolerance 1/min : +- 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1550

rack travel mm : 4.00
Rated speed rpm : 1415
Tolerance 1/min : +- 15

LOW IDLE

control lever

position degree : 76.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325 rack travel mm : 9.30 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

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Testing:

Rated speed rpm : 325 rack travel mm : 9.80 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 650
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 10.50 Tolerance mm : + 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.50 Tolerance mm : + 0.75

LOW IDLE

Rack travel in mm : 9.80 Tolerance mm : +- 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.01.98 : ISO 4113

Combination No. : 0 400 866 238

Injection pump

Pump designation: PES6A95D410/3RS2938

EP type number : 0 410 896 881

6overnor

Governer design. : RSV325...1250A5C950L Governer no. : 0 420 232 641

Cust. part No. : 0423 2532 KY

Customer-spec. information

Customer : KHD : F6L913 COM1 Motor

Power KW

: 89.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temo. °C

Tolerance °C

: 40 : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : ഫ്ര

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : +

3.00

: **←** 0.05

Check

tolerance mm

: + 0.10

Rack travel in mm: 17.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 10.50

Tolerance mm : \leftarrow 0.05

Rack travel in mm : 9.80 Tolerance mm : \leftarrow 0.10

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever

position degree : FREE Rated speed rpm : 800

Rack travel in mm : 0.50 Tolerance mm : + 0.20

governor spring

pre-tension

click setting x : 5.00

CONTROL LEVER

control lever

position degree : 110.0 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.50 Rated speed rpm : 1295 Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1355
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1550

rack travel mm : 4.00
Rated speed rpm : 1415
Tolerance 1/min : ← 15

LOW IDLE

control lever

position degree : 76.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325 rack travel mm : 9.30 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 325 rack travel mm : 9.80 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 650
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 10.50 Tolerance mm : + 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.50 Tolerance mm : + 0.75

LOW IDLE

Rack travel in mm : 9.80 Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 02.01.98 : ISO 4113

Combination No. : 9 400 030 751

Injection pump

Pump designation: PES6A95D320/3RS2881.

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1050A0C866R

Governer no. : F 002 A20 202

Cust. part No. : 393 0158

Customer-spec. information Customer : CUMMINS Motor : 6BT Power KW : 94.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.2

Test oil inlet

temp. °C Tolerance "C : **←** 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm 2.85 : + 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 : + 0.10Tolerance

Check

tolerance *NW : ← Ü.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.40 Tolerance n_m : $\leftarrow 0.05$

| Del. quantity + | Aneroid pressure |
|--|--|
| cm3/1000 strokes : 90.3 | hPa : 950 Del. quantity |
| Tolerance cm3/1000 strokes : + 1.0 | cm3/1000 strokes : 90.3 Tolerance |
| Check tolerance | cm3/1000 strokes : +- 1.0 Check tolerance |
| cm3/1000s. : + 3.0 | cm3/1000s. : +- 3.0 |
| Spreed | Spreed Tolerance |
| Tolerance | cm3/1000 strokes : 4.0 Check tolerance |
| cm3/1000 strokes : 4.0 | cm3/1000s. : 6.5 |
| Check tolerance + cm3/1000s. : 6.5 | |
| | CONTROL. LEVER |
| Rated speed rom : 475 | control lever |
| + | position degree : 102.0 tolerance degree : +- 4.0 |
| Rack travel in mm: 6.75 + Tolerance mm: + 0.10 + | RATED SPEED |
| Del. quantity | rack travel mm : 11.40 |
| cm3/1000 strokes : 18.6 | Rated speed rpm : 1095 |
| Tolerance + | Tolerance 1/min : +- 5 |
| cm3/1000 strokes : + 2.0 + Check tolerance + | rack travel mm : 4.00 |
| cm3/1000s. : +- 4.5 | Rated speed rpm : 1190 |
| Spreed | Tolerance 1/min : +- 15 |
| Tolerance | |
| cm3/1000 strokes : 6.0 + Check tolerance + | rack travel mm : 0.85 Tolerance mm : +- 0.55 |
| cm3/1000s. : 8.0 | Tolerance mm : +- 0.55 Rated speed rpm : 1280 |
| 1 | nata speca (pii) . (cos |
| + | rack travel mm : 4.00 |
| (B) SETTING OF INJECTION PUMP | Rated speed rpm : 1200 |
| WITH GOVERNOR + | Tolerance 1/min : +- 15 |
| GUIDE SLEEVE POSITION | |
| | LOW IDLE |
| control lever | |
| position degree : -3 | control lever |
| Rated speed rpm : 800 | position degree : 84.0 |
| Rack travel in mm: 0.50 | tolerance degree : +- 4.0 |
| Tolerance mm : + 0.20 | Control lever difference |
| + | Grad : 18.0 |
| governor spring | tolerance degree : +- 4.0 |
| pre-tension + click setting x : 4.00 + | Setting point w/out bumper spring |
| 7.00 | |
| FILL LOAD DELTHERY AT ELL LOAD OTTO | Rated speed rpm : 475 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | rack travel mm : 6.25 Tolerance mm : + 0.10 |
| Rated speed rpm : 1050 | 10ter drive har . *** U. 10 |
| + | Rated speed rpm : 100 |

| CRT mm min. | : > 19.50 | + Del. quantity + cm3/1000 strokes : 103.0 |
|---|---------------------------------------|---|
| Testing: | | Tolerance cm3/1000 strokes : +- 2.0 |
| Rated speed rpm rack travel mm Tolerance mm | : 475 : 6.75 : + 0.10 | Check tolerance : +- 4.0 |
| rack travel mma Rated speed rpma Tolerance 1/main | | Aneroid pressure hPa : - Rated speed rpm : 650 Del. quantity cm3/1000 strokes : 88.5 Tolerance |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 12.40 | cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 |
| Rated speed rpm rack travel mm Tolerance mm | : 800 : 13.10 : +- 0.10 | STARTING FUEL DELIVERY |
| ANEROID/ALTITUDE COMPENSATOR TEST | | Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 121.0 |
| SETTING | | + Tolerance + cm3/1000 strokes : +- 10.0 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 650 : 950 : 13.50 : ← 0.20 | - Check tolerance - cm3/1000s. : +- 15.0 |
| Rated speed rpm Pressure hPa rack travel mm | : – : 12.20 | LOW IDLE Rated speed rpm : 475 |
| Tolerance mm MEASUREMENT | : +- 0.10 | Rack travel in mm: 6.75 Tolerance mm: + 0.10 Del. quantity |
| Rated speed rpm | | cm3/1000 strokes : 18.6 Tolerance |
| Pressure hPa rack travel mm Tolerance mm | : 850 : 13.10 : ← 0.20 | + cm3/1000 strokes : + 2.0 + Check tolerance + cm3/1000s. : + 4.5 + Spreed |
| Pressure hPa rack travel mm Tolerance mm | : 800 : 12.90 : + 0.20 | Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0 |
| FUEL DELIVERY CHA | ARACTERISTICS | |
| Aneroid pressure hPa Rated speed rpm | : 950 : 800 | End of test specification sheet |

L09

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.01.98 Test oil : ISO 4113

Combination No. : 0 401 846 370

Injection pump

Pump designation: PE6P110A320RS157 EP type number: 0 411 816 108

Governor

Governer design. : RQV250...550/1150PA1

: 40R

Governer no. : 0 421 813 184

Cust. part No. : 516208005011

Customer—spec. information Customer : STEYR Motor : 7 FA Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40 Tolerance *C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

L10

x inside diameter: 1.5 : 600 x length man REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : Tolerance bar : +- 1.0 2.05 Prestroke mm : +- C.05 Tolerance mm Check tolerance mm : +- 0.10 Rack travel in mm: 10.50 Tolerance mm : +- 1.50 : 1-5-3-6-2-Firing order : 0-60-120-180-240 Phasing : -300 Tolerance : + 0.50 Check tolerance *NW : **←** 0.75 Start of delivery mark Tolerance : + 0.50Check tolerance 'NW : + 0.75Barrel no. BASIC SETTING Del. quantity cm3/1000 strokes : 170.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. : +-4.0

Spreed

| spr ee a | |
|---|---|
| Tolerance cm3/1000 strokes | : 4.0 |
| Check tolerance cm3/1000s. | : 8.0 |
| | |
| Rated speed rpm | : 250 |
| Rack travel in mm | |
| Tolerance mm | : ← 0.10 |
| Del. quantity cm3/1000 strokes | . 14.0 |
| Tolerance | : 16.0 |
| cm3/1000 strokes | : +- 3.0 |
| Check tolerance | |
| cm3/1000s. | : +- 5.5 |
| Spreed Tolerance | |
| cm3/1000 strokes | : 4.0 |
| Check tolerance | |
| cm3/1000s. | : 7.0 |
| (B) SETTING OF IN WITH GOVERNOR | JECTION PUMP |
| | |
| GUIDE SLEEVE POSI | TION |
| GUIDE SLEEVE POSI control lever position degree Rated speed rpm | |
| control lever position degree Rated speed rpm | : - 1 : 1150 |
| control lever | : - 1 : 1150 |
| control lever position degree Rated speed rom Rack travel in man | : - 1 : 1150 : 16.50 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm | : - 1 : 1150 : 16.50 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER Rated speed rpm | : - 1 : 1150 : 16.50 : + 1.30 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER | : - 1 : 1150 : 16.50 : + 1.30 Y AT FULL LOAD STOP |
| control lever position degree Rated speed rpm Rack travel in man Tolerance man FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity | : - 1 : 1150 : 16.50 : + 1.30 Y AT FULL LOAD STOP : 1150 : 900 |
| control lever position degree Rated speed rpm Rack travel in mmn Tolerance mmn FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | : - 1 : 1150 : 16.50 : + 1.30 Y AT FULL LOAD STOP : 1150 : 900 |
| control lever position degree Rated speed rpm Rack travel in man Tolerance man FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance | : - 1 : 1150 : 16.50 : + 1.30 Y AT FULL LOAD STOP : 1150 : 900 : 170.0 |
| control lever position degree Rated speed rpm Rack travel in mmn Tolerance mmn FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | : - 1 : 1150 : 16.50 : + 1.30 Y AT FULL LOAD STOP : 1150 : 900 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : - 1 : 1150 : 16.50 : + 1.30 Y AT FULL LOAD STOP : 1150 : 900 : 170.0 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed | : - 1 : 1150 : 16.50 : + 1.30 Y AT FULL LOAD STOP : 1150 : 900 : 170.0 : + 1.0 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | : - 1 : 1150 : 16.50 : + 1.30 Y AT FULL LOAD STOP : 1150 : 900 : 170.0 : + 1.0 : + 4.0 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed | : - 1 : 1150 : 16.50 : + 1.30 Y AT FULL LOAD STOP : 1150 : 900 : 170.0 : + 1.0 |
| control lever position degree Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes | : - 1 : 1150 : 16.50 : + 1.30 Y AT FULL LOAD STOP : 1150 : 900 : 170.0 : + 1.0 : + 4.0 |

| CONTROL LEVER | |
|---|---------------------------------------|
| control lever position degree tolerance degree | : 66.0 : + 4.0 |
| RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min | : 11.20 : 1195 : + 5 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 1265 |
| rack travel mm Tolerance mm Rated speed rpm | : +- 0.50 |
| | |
| LOW IDLE | |
| control lever position degree tolerance degree | : 10.0 : + 4.0 |
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 100 |
| CRT mm min. | : > 7.90 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 250 : 6.50 : + 0.10 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 2.00 : 430 > 10 30 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 900 : 12.25 : + 0.05 |

| Rated speed rpm | : | 500 |
|-----------------|-----|--------|
| Pressure hPa | : | - |
| rack travel mm | : | 10.75 |
| Tolerance mm | : + | - 0.05 |

MEASUREMENT

| Rated speed ! | may: | 5 00 |
|---------------|------|-------------|
|---------------|------|-------------|

| Pressure hPa | : | 300 |
|----------------|-----|------------|
| rack travel mm | : | 11.00 |
| Tolerance mm | : + | - 0.10 |

| Pressure hPa | : | 380 |
|----------------|-----|--------|
| rack travel mm | : | 11.75 |
| Tolerance mma | : + | - 0.05 |

FUEL DELIVERY CHARACTERISTICS

| Anero | bic | pressure | | |
|-------|-----|----------|---|---|
| hPa | | | : | • |
| - | | | | |

Rated speed rpm : 1150 Del. quantity

cm3/1000 strokes : 133.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : \leftarrow 5.0

Spreed

Check tolerance

cm3/1000s. : 9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 215.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm: 6.50 Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 16.0

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance cm3/1000s. : +- 5.5

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 7.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.01.98 Test oil : ISO 4113

Combination No. : 0 401 886 702

Injection pump

Pump designation : PE6P110A721RS3341

EP type number : 0 411 816 796

Governor

Governer design. : RSV400...1200P1A527

: -1

Governer no. : 0 421 833 455

Cust. part %o. : 615.60.08.0039

Customer-spec. information:

Customer : SNF

Motor : WD615.88

Power KW : 228.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance bar : + 0.1

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance "NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.80
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 188.0

Tolerance

cm3/1000 strokes : +- 1.0

| Check tolerance cm3/1000s. : +- 4.0 | Check tolerance cm3/1000s. : +- 4.0 Spreed |
|--|--|
| Spreed | Tolerance cm3/1000 strokes : 4.0 |
| Tolerance cm3/1000 strokes : 4.0 | Check tolerance cm3/1000s. : 7.5 |
| Check tolerance | ‡ |
| cm3/1000s. : 7.5 | CONTROL LEVER |
| ~ | control lever |
| Rated speed rpm : 400 | <pre>position degree : 116.0 tolerance degree : +- 4.0</pre> |
| Rack travel in mm: 3.10 | - |
| Tolerance mm : + 0.10 | RATED SPEED |
| | |
| Del. quantity | + rack travel mm : 12.80 |
| cm3/1000 strokes : 14.0 | + Rated speed rpm : 1245 |
| Tolerance | + Tolerance 1/min : +- 5 |
| cm3/1000 strokes : + 3.0 | |
| | T mode Amound and 4 00 |
| Check tolerance | + rack travel mm : 4.00 |
| cm3/1000s. : $$ 5.5 | + Rated speed rpm : 1300 |
| Spreed | + Tolerance 1/min : + 15 |
| Tolerance | 1 |
| cm3/1000 strokes : 4.5 | rack travel mm : 0.85 |
| The state of the s | |
| Check tolerance | + Tolerance mm : + 0.55 |
| cm3/1000s. : 7.5 | + Rated speed rpm : 1400 |
| (B) SETTING OF INJECTION PUMP | + |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | LOW IDLE |
| WITH GOVERNOR | + |
| | control lever |
| WITH GOVERNOR | control lever position degree : 78.0 |
| GUIDE SLEEVE POSITION | control lever |
| GUIDE SLEEVE POSITION control lever | control lever position degree : 78.0 tolerance degree : +- 4.0 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 | control lever position degree : 78.0 |
| GUIDE SLEEVE POSITION control lever | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension | control lever position degree : 78.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : + 0.10 Rated speed rpm : 100 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 400 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1200 | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 400 rack travel mm : 3.10 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1200 Aneroid pressure | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 400 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1200 Aneroid pressure hPa : 1200 | control lever position degree : 78.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 400 rack travel mm : 3.10 Tolerance mm : + 0.10 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 400 rack travel mm : 3.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 188.0 | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 400 rack travel mm : 3.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 465 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 188.0 Tolerance | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 400 rack travel mm : 3.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 |
| GUIDE SLEEVE POSITION control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1200 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 188.0 | control lever position degree : 78.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 3.60 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 400 rack travel mm : 3.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 465 |

TORQUE CONTROL

Rated speed rpm : 1200 rack travel mm : 13.80 Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel ma : 13.80 Tolerance man : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.80
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 10.10
Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 360 rack travel mm : 11.00 Tolerance mm : + 0.20

Pressure hPa : 600 rack travel mm : 12.80 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1200 Rated speed rpm : 700 Del. quantity

cm3/1000 strokes : 198.0

Tolerance

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 123.0

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 5.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 14.30 Tolerance mm : + 0.20

Del. quantity

cm3/1000 strokes : 205.0

Tolerance

cm3/1000 strokes : + 15.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm: 3.10
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 14.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s.

cm3/1000s. : +- 5.5 Spreed

Tolerance

cm3/1000 strokes : 4.5 Check tolerance

cm3/10/00s. : 7.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.01.98 Test oil : ISO 4113

Combination No. : 0 402 646 704

Injection pump

Pump designation : PE6P120A320LS7904 EP type number : 0 412 626 961

Governor

Governer design. : RQV300...950PA1377 Governer no. : 0 421 814 208

Cust. part No. : 04223929 KY

Customer—spec. information Customer : KHD

Motor : BF6M1015/C Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 033

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 240 Tolerance l/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x tength mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 300.00 Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 950

| | | 1 | |
|---|--------------------|---------------------------------|------------------------|
| Rack travel in mm Tolerance mm | | Rated speed rp guide sleeve | om : 1160 |
| TOTEL CHIECE INTO | . • 0.05 | travel mm | : 13.50 |
| Del. quantity | | Tolerance mm | |
| cm3/1000 strokes | : 350.0 | Total differ man | . , , 0.90 |
| Tolerance | | GUIDE SLEEVE F | POSITION |
| cm3/1000 strokes | : ← 1.0 | + | |
| | | + Rated speed rp | ma : 1028 |
| Check tolerance | | † | 40.70 |
| cm3/1000s. | : + 4.0 | | 12.70 |
| Spreed | | † loterance mm | : +- 1.30 |
| phreca | | I | |
| Tolerance | | FULL LOAD DELT | VERY AT FULL LOAD STOP |
| cm3/1000 strakes | : 6.0 | + | TOLL LOND OTO |
| | | Rated speed r | om: 950 |
| Check tolerance | | + Aneroid pressu | ıre |
| cm3/1000s. | : 9.0 | + hPa | : 1700 |
| | | + Del. quantity | |
| | | | kes : 350.0 |
| Datad speed non | : 300 | + Tolerance + cm3/1000 strok | es : +- 1.0 |
| Rated speed rpm | : 300 | + Check tolerand | |
| Rack travel in mm | 6.00 | - cm3/1000s. | : + 4.0 |
| Tolerance mm | | Spreed | 4.5 |
| Del. quantity | | + Tolerance | |
| cm3/1000 strokes | : 23.0 | + cm3/1000 strok | ces : 6.0 |
| Tolerance | _ | + Check tolerand | |
| cm3/1000 strokes | : ← 3.0 | + cm3/1000s. | : 9.0 |
| Check tolerance | | + | |
| cm3/1000s. | : + 6.0 | † | |
| Spreed Tolerance | | CONTROL LEVER | |
| cm3/1000 strokes | : 8.0 | I CONTROL LEVER | |
| Check tolerance | . 0.0 | control lever | |
| cm3/1000s. | : 12.0 | + position degre | ee : 122.0 |
| | | | ree : +- 4.0 |
| 4 | | + | |
| (B) SETTING OF IN | WECTION PUMP | + RATED SPEED | 40.70 |
| WITH GOVERNOR | | + rack travel m | 12.70 |
| | | + Rated speed rg | om : 985 in : +- 5 |
| GUIDE SLEEVE TRAV | /FL | Total ance 17(0) | |
| | | + rack travel mm | · 4.50 |
| Rated speed rpm | : 999 | + Rated speed rp | om: 1035 |
| guide sleeve travel mm | | + Tolerance 1/mi | n : +- 15 |
| travel mm | : 10.19 | + | |
| Tolerance mm | : +- 0.15 | † | |
| Rated speed rpm | • 300 | I | |
| audado ologo | | LOW IDLE | |
| travel ma | : 1.13 | TOW IDEE | |
| travel mm Tolerance imm | : + 0.20 | + | |
| | | + control lever | |
| Rated speed rpm | : 700 | + position degre | ee : 78.0 |
| | | + tolerance degr | ree : +- 4.0 |
| guide sleeve travel mm Tolerance mm | 5.10 | † | |
| iolerance mm | : + U.25 | + Setting point | w/out bumper spring |
| | | | |

Rated speed rpm : 200 CRT mm min. : > 7.77

Testing:

Rated speed rpm : 300 rack travel mm : 6.00 : + 0.10Tolerance mm

Rated speed rpm : 345

TORQUE CONTROL Rated speed rpm :

950 rack travel mm : 13.70 : **←** 0.05 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400 Pressure hPa : 1700 rack travel mm : 13.70 : +- 0.05 Tolerance mm

400 Rated speed rpm : Pressure hPa : 8,40 rack travel mm : + 0.20Tolerance mm

MEASUREMENT

Rated speed rpm : 400

Pressure hPa : 550 10.40 550 rack travel mm : + 0.10Tolerance mm

Pressure hPa : 1000 rack travel mm : 12.50 Tolerance mm : ← 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

400 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance : +- 4.0 cm3/1000s.

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : : 8.40 : + 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 135.0 Tolerance cm3/1000 strokes : \leftarrow 20.0

Check tolerance cm3/1000s.: +- 24.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 6.00 Tolerance m_1 : $\leftarrow 0.10$ Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s. : ← 6.0 Spreed Tolerance

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s.: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 09.01.98 : ISO 4113

Combination No. : 0 402 746 601A

Injection pump

Pump designation : PES6P120A720RS7389

EP type number : 0 412 726 944

Governor

Governer design. : RQ275/1050PA1021-4

Governer no. : 0 421 801 795

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE Motor : 8460.41.711

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

: 145 min. L/h Tolerance l/h : **←** 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.15 : +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery mark

Check

tolerance 'NW : + 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 10.10 Tolerance mm : \leftarrow 0.05

| Del. quantity cm3/1000 strokes | : 151.0 | † Tolerance mm : + 0.10 |
|--------------------------------|---------------------|---|
| Tolerance | | + Rated speed rpm : 470 + guide sleeve |
| cm3/1000 strokes | : ← 1.0 | travel mm : 6.00 Tolerance mm : + 0.10 |
| Check tolerance cm3/1000s. | : + 4.0 | Rated speed rpm : 1270 |
| Spreed | | + guide sleeve + travel mm : 11.50 |
| 1 . | | † Tolerance mm : + 0.50 |
| Tolerance cm3/1000 strokes | : 5.0 | + GUIDE SLEEVE POSITION |
| Check tolerance | | T GOIDE SLEEVE POSITION |
| cm3/1000s. | : 9.0 | Ŧ |
| | | + control lever |
| | | position degree : 109 |
| Rated speed rpm | : 275 | Rated speed rpm : 1164 |
| matea option i pin | • • • | Rack travel in mm: 9.15 |
| Rack travel in m | m: 4.60 | + Tolerance mm : +- 1.30 |
| Tolerance mm | : + 0.10 | + |
| Del. quantity | | |
| cm3/1000 strokes | : 23.0 | + FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | . 7.0 | † |
| cm3/1000 strokes | : +- 3.0 | + Rated speed rpm : 1050 |
| Check tolerance cm3/1000s. | : 6.0 | + Aneroid pressure + hPa : 900 |
| Spreed | : 6.0 | + Del. quantity |
| Tolerance | | - cm3/1000 strokes : 151.0 |
| cm3/1000 strokes | : 8.0 | + Tolerance |
| Check tolerance | | + cm3/1000 strokes : +- 1.0 |
| cm3/1000s. | : 12.0 | + Check tolerance |
| | | + cm3/1000s. : +- 4.0 |
| /n) | 111-07-7011 5:445 | Spreed |
| (B) SETTING OF I | NATECTION PUMP | + Tolerance + cm3/1000 strokes : 5.0 |
| WITH GOVERNOR | | + cm3/1000 strokes : 5.0 + Check tolerance |
| | | - + cm3/1000s. : 9.0 |
| GUIDE SLEEVE TRA | VEL | 1 |
| Rated speed rpm | : 1116 | + RATED SPEED |
| guide sleeve | . 1110 | rack travel mm : 9.10 |
| travel mm | : 6.40 | + Rated speed rpm : 1110 |
| Tolerance mm | : ← 0.15 | Tolerance 1/min : +- 8 |
| Dated passed non- | : 275 | + + rack travel mm : 4.00 |
| Rated speed rpm guide sleeve | . 613 | + Rated speed rpm : 1150 |
| travel mm | : 1.99 | Tolerance 1/min : + 15 |
| Tolerance mm | : ← 0.20 | + 10001 (1100 11111111111111111111111111 |
| , | - | rack travel mm : 0.50 |
| Rated speed rpm | : 1050 | Tolerance mm : + 0.50 |
| guide sleeve | | + Rated speed rpm : 1350 |
| travel mm | : 6.00 | † |
| Tolerance mm | : - 0.10 | 1 |
| Rated speed rpm | : 367 | |
| guide sleeve | | ↓ LOW IDLE |
| travel mm | : 4.29 | + |
| | | • |

| | + | Rated speed rpm | : < | 195 |
|--|----------------|--------------------------------|-------------|---------|
| control lever | } | | · | **** |
| position degree : 73 | | Check | | |
| tolerance degree : +- 4 | ··0 + | speed 1/min | : > | 80 |
| | + | Check | | |
| Setting point w/out bumper | spring + | speed 1/min | : < | 215 |
| | _ + | | | |
| Rated speed rpm : 175 | † | | | |
| • | t | FUEL DELIVERY CHAP | RACTE | RISTICS |
| CRT mm min. : > 6. | .10 † | | | |
| Testing: | † | Anonoid passeups | | |
| restring: | I | Aneroid pressure hPa | | 000 |
| Rated speed rpm : 275 | · T | | • | 900 |
| rack travel mm : 4. | '40 T | Rated speed rpm | • | 000 |
| rack travel mm : 4. Tolerance mm : + 0. | 10 T | Del. quantity cm3/1000 strokes | | 152 5 |
| TOTAL THE THE | T | Tolerance | • | 156.5 |
| rack travel mm : 2. | \mathbf{m} | cm3/1000 strokes | • | 3.0 |
| Rated speed rpm : 350 | | Check tolerance | . — | 5.0 |
| Tolerance 1/min : +- | , 20 I | cm3/1000s. | ٠. | 6.0 |
| TOLERANCE THREE . TO | I | UIID/ 10003, | | 0.0 |
| | I | | | |
| TORQUE CONTROL | 1 | Aneroid pressure | | |
| Rated speed rpm : 1050 | 1 1 | hPa | • | - |
| rack travel mm : 10. | 10 1 | Rated speed rpm | : | ረሀብ |
| rack travel mm : 10. Tolerance mm : +- 0. | ns 1 | Del. quantity | • | 000 |
| TOTAL MINE THE | 1 | cm3/1000 strokes | • | 124 N |
| Rated speed rpm : 600 | 1 | Tolerance | • | 124.0 |
| rack travel mm : 10. | | cm3/1000 strokes | ٠ ـــ | 1 0 |
| Tolerance mm : +- 0. | | Check tolerance | • • | 1.0 |
| Total di per min | 1 | cm3/1000s. | • +- | 4 N |
| | | | • | 4.0 |
| ANEROID/ALTITUDE | + | | | |
| COMPENSATOR TEST | + | | | |
| | + | STARTING FUEL DELI | VERY | |
| | + | | | |
| SETTING | + | Rated speed rpm | : | 100 |
| | + | Del. quantity | | |
| Rated speed rpm : 600 | | cm3/1000 strokes | : | 170.0 |
| Pressure hPa : 900 | | Tolerance | | |
| rack travel mm : 10. | | cm3/1000 strokes | : +- | 15.0 |
| Tolerance mm : +- 0. | .05 + | Check tolerance | | |
| | + | cm3/1000s. | : +- | 19.0 |
| Rated speed rpm : 600 | | | | |
| Pressure hPa : | | | | |
| rack travel mm : 9. | | | | |
| rack travel mm : 9. Tolerance mm : + 0. | 10 + | | | |
| | + | LOW IDLE | | |
| MEASUREMENT | + | | | |
| | , | Rated speed rpm | : | 275 |
| Rated speed rpm : 600 |) | | | = |
| | + | Rack travel in mm | : | 4.60 |
| Pressure hPa : 350 |) + | Tolerance mm | : +- | 0.10 |
| rack travel mm : 9. | 50 + | Del. quantity | | |
| Tolerance mm : + 0. | 05 + | cm3/1000 strokes | : | 23.0 |
| | + | Tolerance | | |
| | + | cm3/1000 strokes | : +- | 3.0 |
| Start interlock | + | Check tolerance | | |
| · · · · · · · · · · · · · · · · · · · | + | cm3/1000S. | : +- | 6.0 |
| Rated speed rpm : > 1 | 100 + | Spreed | | |
| Company of the compan | | • • = = == | | |

Tolerance : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.01.98 Test oil : ISO 4113

Combination No. : 0 402 846 301

Injection pump

Pump designation : PE6P120A320RS8508 : EP type number : 0 412 826 201

Governor

Governer design. : RQV275...1000PA1099K

Governer no. : 0 421 815 983

Cust. part No. : 1287579/4

Customer—spec. information Customer : DAF Motor : WS 315 M Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 180 Tolerance l/h : → 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.35 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 321.5

| - 4 | |
|--|--|
| Tolerance | + guide sleeve |
| cm3/1000 strokes : + 1.0 | travel mm : 3.08 |
| Check tolerance | + Tolerance mm : +- 0.25 |
| cm3/1000s. : +- 5.0 | Rated speed rpm : 400 |
| Ch5/ 10003. | guide sleeve |
| Spreed | travel mn : 3.92 |
| opi cea | Tolerance mm : + 0.25 |
| Tolerance | Total differential to the second seco |
| cm3/1000 strokes : 6.0 | Rated speed rpm : 1310 |
| | + guide sleeve |
| Check tolerance | + travel mm : 13.50 |
| cm3/1000s. : 12.0 | → Tolerance mm : + 0.50 |
| | |
| | |
| | . + GUIDE SLEEVE POSITION |
| Rated speed rpm : 275 | † |
| | † |
| Rack travel in mm: 5.80 | t control lever |
| Tolerance mm : + 0.10 | position degree : -1 |
| Del. quantity cm3/1000 strokes : 13.0 | Rated speed rpm : 1130 |
| Tolerance | Rack travel in mm : 12.70 |
| cm3/1000 strokes : + 3.0 | Tolerance mm : +- 1.30 |
| Check tolerance | T roterance map , 7 1.30 |
| cm3/1000s. : + 6.0 | |
| Spreed | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | + |
| cm3/1000 strokes : 8.0 | Rated speed rpm : 980 |
| Check tolerance | + Aneroid pressure |
| cm3/1000s. : 13.0 | + hPa : − |
| | + Del. quantity |
| | + cm3/1000 strokes : 321.5 |
| (B) SETTING OF INJECTION PUMP | + Tolerance |
| WITH GOVERNOR | + cm3/1000 strokes : +- 1.0 |
| | + Check tolerance |
| CUIDE OF PRIE TRAVEL | |
| GUIDE SLEEVE TRAVEL | - Spreed |
| Rated speed rpm : 1050 | + Tolerance + cm3/1000 strokes : 6.0 |
| guide steeve | Check tolerance |
| travel mm : 9.89 | - cm3/1000s. : 12.0 |
| Tolerance mm : +- 0.20 | 1 |
| | |
| Rated speed rpm : 275 | + |
| quide sleeve | + CONTROL LEVER |
| travel mm : 2.14 Tolerance mm : + 0.15 | + |
| Tolerance mm : + 0.15 | t control lever |
| | + position degree : 120.0 |
| Rated speed rpm : 692 | tolerance degree : +- 4.0 |
| guide sleeve | † DATE: 00000 |
| travel mm : 6.45 | RATED SPEED |
| Tolerance mm : + 0.25 | rack travel mm : 12.35 |
| Dated aread are | Rated speed rpm : 1037 |
| Rated speed rpm : 284 guide sleeve | † Tolerance 1/min : +- 5 |
| | rack travel mm : 4.00 |
| travel mm : 2.27 Tolerance mm : + 0.25 | Rated speed rpm : 1150 |
| TOCCI DIFFE HERE | Tolerance 1/min : + 15 |
| Rated speed rpm : 334 | 10cci di 10c 1/18111 . 1 |
| | ŧ |

| rack travel mm Tolerance mm Rated speed rpm | : ← 0.70 |
|--|------------------------------|
| LOW IDLE | |
| control lever position degree tolerance degree | : 76.0 : + 4.0 |
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 175 |
| CRT mam min. | : > 8.00 |
| Testing: | |
| Rated speed rom rack travel mm Tolerance mm | : 275 : 5.80 : + 0.10 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 2.00 : 405 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 980 : 13.35 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 750 : 12.75 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 600 : 12.05 : + 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | : 500 : 12.00 : + 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | : 400 : 11.95 : ← 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |

| Pressure hPa rack travel mm Tolerance mm | : + | 1500 13.35 0.05 |
|--|----------------|--------------------------|
| Rated speed rpm Pressure hPa rack travel mm Tolerance mma | : : : +- | 980 - 8.90 0.10 |
| MEASUREMENT | | |
| Rated speed rpm | : | 980 |
| Pressure hPa rack travel mm Tolerance mm | : : : +- | 750 12.25 0.05 |
| Pressure hPa rack travel mm Tolerance mm | : : +- | 420 10.00 0.10 |
| FUEL DELIVERY CHA | ARACTE | RISTICS |
| Anaroid pressure | | |

| Aneroid pressure | |
|-------------------------------------|-----------------|
| hPa | : - |
| Rated speed rpm | 750 |
| Del. quantity | |
| cm3/1000 strokes | : 316.0 |
| Tolerance | |
| cm3/1000 strokes Check tolerance | : ← 2.0 |
| cm3/1000s. | : ← 6.0 |
| Spreed | . 1- 0.0 |
| Tolerance | |
| cm3/1000 strokes | : 8.0 |
| Check tolerance | |
| cm3/1000s. | : 13.0 |
| | |
| rack travel mm | : 12.05 |
| Tolerance mm | : ← 0.10 |
| | |
| Aneroid pressure | |
| hPa | : - 600 |
| Rated speed rpm | : 600 |
| Del. quantity | . 400.0 |
| cm3/1000 strokes Tolerance | : 188.0 |
| cm3/1000 strokes | : + 1.0 |
| Check tolerance | |
| cm3/1000s. | : ← 5.0 |

Rated speed rpm : 980

LOW IDLE

| Rated speed rpm | : | 275 |
|--|-----------|--------------|
| Rack travel in mm Tolerance mm Del. quantity | : : +- | 5.80 0.10 |
| cm3/1000 strokes Tolerance | : | 13.0 |
| cm3/1000 strokes Check tolerance | : +- | 3.0 |
| cm3/1000s. Spreed Tolerance | : + | 6.0 |
| cm3/1000 strokes Check tolerance | : | 8.0 |
| cm3/1000s. | : | 13.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.01.98 Test oil : ISO 4113

Combination No. : 0 403 436 109

Injection pump

Pump designation : PES6MW100/120RS1143. : 0 413 406 137 EP type number

Governor

Governer design. : RQV300...1050MW82-4

: 0 420 083 168 Governer no.

: 3915581 Cust. part No.

Customer-spec. information : CUMMINS Customer Motor : 6 CTA-830 Power KW : 175.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +-2.0

: 1 417 413 047 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 017 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

tolerance mm

31.0 Test pressure bar: Tolerance bar : + 1.0

Prestroke mm 3.10 Tolerance mm : + 0.05Check : +- 0.10

Rack travel in mm: 10.50

Tolerance max : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance "NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.65

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 149.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance : +-3.0 cm3/1000s.

Spreed

| Toleranse cm3/1000 strokes | : 3.5 | + Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance |
|--|---------------------|---|
| Check tolerance cm3/1000s. | : 6.0 | + cneck toterance + cns3/1000s. : + 3.0 + Spreed |
| | | Tolerance cm3/1000 strokes : 3.5 |
| Rated speed rpm | : 300 | + Check tolerance + cm3/1000S. : 6.0 |
| Rack travel in mm Tolerance mm | | † |
| Del. quantity cm3/1000 strokes | | CONTROL LEVER |
| Tolerance cm3/1000 strokes | | control lever position degree : 101.0 |
| Check tolerance cm3/1000s. | : + 4.5 | tolerance degree : +- 4.0 |
| Spreed Tolerance | . +- 4.5 | RATED SPEED + rack travel mm : 11.60 |
| cm3/1000 strokes Check tolerance | : 3.5 | + Rated speed rpm : 1095 + Tolerance 1/min : + 5 |
| cm3/1000s. | : 5.5 | rack travel mm : 4.00 |
| | | Rated speed rpm : 1200 |
| (B) SETTING OF IN WITH GOVERNOR | JECTION PUMP | Tolerance 1/min : +- 15 |
| | | rack travel mm : 0.50 |
| GUIDE SLEEVE TRAV | EL | + Tolerance mm : ← 0.50 + Rated speed rpm : 1300 |
| Rated speed rpm | : 1100 | + |
| guide sleeve travel mm | : 8.00 | |
| Tolerance mm | : ← 0.10 | LOW IDLE |
| Rated speed rpm guide sleeve | : 300 | control lever |
| travel mm Tolerance mm | : 1.30 : + 0.20 | position degree : 71.0 tolerance degree : + 4.0 |
| Rated speed rpm | : 550 | + Setting point w/out bumper spring |
| guide sleeve travel mm | : 3.30 | Rated speed rpm : 100 |
| Tolerance mm | : + 0.30 : 1210 | CRT mm min. : > 9.30 |
| Rated speed rpm guide sleeve travel mm | : 9.20 | Testing: |
| Tolerance mm | : + 0.20 | Rated speed rpm : 300 rack travel mm : 8.00 |
| FULL LOAD DELIVER | Y AT FULL LOAD STOP | Tolerance ma : + 0.10 |
| Rated speed rpm | : 1050 | TORQUE CONTROL |
| Aneroid pressure hPa | : 900 | Rated speed rpm : 1050 rack travel mm : 12.65 Tolerance mm : + 0.05 |
| Del. quantity cm3/1000 strokes | : 149.0 | + Tolerance mm : + U.U5 |
| 5 CONT. 1000 0010100 | | Rated speed rpm : 700 |

| rack travel mm Tolerance mm | : 12.65 : ← 0.05 | Check tolerance cm3/1000s. : 7.0 |
|---|-------------------------------------|---|
| ANEROID/ALTITUDE COMPENSATOR TEST | | Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity |
| SETTING | $\frac{1}{2}$ | cm3/1000 strokes : 93.0 Tolerance |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 900 : 12.65 | cm3/1000 strokes : + 1.G Check tolerance cm3/1000s. : + 3.0 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : - : 10.30 : + 0.10 | STARTING FUEL DELIVERY Rated speed rpm : 100 |
| MEASUREMENT | 1 | rack travel mm : 20.00 Tolerance mm : +- 1.00 Del. quantity |
| Rated speed rpm | + | cm3/1000 strokes : 220.0 Tolerance |
| Pressure hPa rack travel mm Tolerance mm | : 450 : 12.20 : ← 0.20 | cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0 |
| Pressure hPa rack travel mm Tolerance mm | : 225 : 10.90 : + 0.05 | LOW IDLE |
| Start interlock | } | Rated speed rpm : 300 |
| Rated speed rpm Rated speed rpm | | Rack travel in mm : 8.00 Tolerance mm : +- 0.10 Del. quantity |
| Check mpeed 1/min Check | :> 80 | cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : +- 2.0 |
| speed 1/min | : < 240 | Check tolerance cm3/1000s. : + 4.5 Spreed |
| FUEL DELIVERY CHAI | RACTERISTICS | Tolerance cm3/1000 strokes : 3.5 Check tolerance |
| Aneroid pressure hPa Rated speed rpm Del. quantity | : 900 : 700 | cm3/1000s. : 5.5 |
| cm3/1000 strokes Tolerance cm3/1000 strokes | + | End of test specification sheet |
| Check tolerance cm3/1000s. Spreed | : + 4.0 | LIM OF LEST SPECIFICATION SHEET |
| Tolerance cm3/1000 strokes | : 5.0 | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.01.98 Test oil : ISO 4113

Combination No. : 0 403 466 131

Injection pump

Pump designation : PES6MW100/120RS1184

EP type number : 0 413 406 171

Governor

Governer design. : RSV375...1250MW2A334

: -1

Governer no. : 0 420 085 207

Cust. part No. : 3281954

Customer—spec. information Customer : CUFMINS

Motor : 6 BTA 5.9

Power KW : 140.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40 Tolerance *C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

MO2

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.35 Tolerance mm : + 0.05

TOTE GIVE IMI

Del. quantity

cm3/1000 strokes : 111.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

| Tolerance cm3/1000 strokes : 3.5 Check tolerance | Check tolerance cm3/1000s. : 6.0 |
|--|--|
| cm3/1000s. : 6.0 | |
| | CONTROL LEVER |
| Rated speed rpm : 375 | <pre>control lever position degree : 111.0 tolerance degree : +- 4.0</pre> |
| Rack travel in mam: 7.25 Tolerance mm: + 0.25 Del. quantity cm3/1000 strokes: 18.0 | RATED SPEED rack travel mm : 9.30 Rated speed rpm : 1300 |
| Tolerance + 2.0 + | Tolerance 1/min : +- 5 |
| Check tolerance cm3/1000s. : +- 4.5 Spreed | rack travel mm : 4.00 Rated speed rpm : 1380 Tolerance 1/min : +- 15 |
| Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5 | rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1550 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | rack travel mm : 4.00 Rated speed rpm : 1435 Tolerance 1/min : +- 15 |
| GUIDE SLEEVE POSITION | LOW IDLE |
| control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.65 | control lever position degree : 87.0 tolerance degree : + 4.0 |
| Tolerance mm : + 0.35 | Setting point w/out bumper spring |
| governor spring pre-tension click setting x : 4.00 | Rated speed rpm : 375 rack travel mm : 6.75 Tolerance mm : + 0.25 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 100 |
| | |
| Detect enced pp. 1250 | CRT mm min. : > 19.00 |
| Rated speed rpm : 1250 Aneroid pressure hPa : 800 | Testing: |
| Aneroid pressure | |

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 Pressure hPa 800 rack travel mm : 10.35 Tolerance mm : +- 0.05

500 Rated speed rpm : Pressure hPa : 9.90 rack travel mm : + 0.05 Tolerance mm

MEASUREMENT

Rated speed rpm : 500

470 Pressure hPa 10.05 rack travel mm : : +- 0.05 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 90.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.: +- 3.C

STARTING FUEL DELIVERY

100 Rated speed rpm : 20.00 rack travel mm : + 1.00 Tolerance mm

Del. quantity

cm3/1000 strokes : 85.0

Tolerance

cm3/1000 strokes : \leftarrow 5.0

Check tolerance

cm3/1000s.: + 8.0

LOW IDLE

Rated speed rpm : 375

Rack travel in mm: 7.25 : **←** 0.25 Tolerance mm

Del. quantity

cm3/1000 strokes : 18.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s.5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.01.98 Test oil : ISO 4113

Combination No. : 0 403 466 139

Injection pump

Pump designation : PES6MW100/120RS1148 EP type number : 0 413 406 143

Governor

Governer design. : RSV400...750MW7A319

: -25

Governer no. : 0 420 085 217

Cust. part No. : 3921083

Customer—spec. information
Customer : CDC
Motor : 6 CTA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40 Tolerance *C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 017

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : 9.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm: 13.05
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 180.5

M05

| Tolerance + | Tolerance |
|--|-------------------------------------|
| cm3/1000 strokes : +- 1.0 | cm3/1000 strokes : +- 1.0 |
| T | Check tolerance |
| Check tolerance | cm3/1000s. \div 4.0 |
| | |
| cm3/1000s. : + 4.0 | Spreed |
| <u> </u> | Tolerance |
| Spreed + | cm3/1000 strokes : 4.0 |
| + | Check tolerance |
| Tolerance + | cm3/1000s. : 7.5 |
| cm3/1000 strokes : 4.0 | |
| | |
| Check tolerance | |
| cm3/1000s. : 7.5 | CONTROL LEVER |
| | |
| | control lever |
| <u> </u> | position degree : 98.0 |
| Rated speed rpm : 400 | tolerance degree : +- 4.0 |
| Rated speed rpm : 400 | toterance degree : 4.0 |
| Dools Annual In my - 125 | DATER OPER |
| Rack travel in mm: 6.25 | RATED SPEED |
| Tolerance mm : + 0.10 + | rack travel mm : 12.00 |
| Del. quantity + | Rated speed rpm : 792 |
| cm3/1000 strokes : 18.0 | Tolerance 1/min : + 3 |
| Tolerance + | |
| cm3/1000 strokes : + 2.0 + | rack travel mm : 4.00 |
| Check tolerance | Rated speed rpm : 830 |
| cm3/1000s. : + 4.5 | Tolerance 1/min : + 5 |
| Spreed | |
| Tolerance | rack travel mm : 1.00 |
| cm3/1000 strokes : 3.5 | Tolerance mm : + 0.70 |
| Check tolerance | Rated speed rpm : 1000 |
| | nated speed (pin . 1000 |
| cm3/1000s. : 5.5 | made Americal may |
| † | rack travel mm : 4.00 |
| (1) | |
| (B) SETTING OF INJECTION PUMP | |
| WITH GOVERNOR + | |
| † | |
| + | LOW IDLE |
| + | |
| GUIDE SLEEVE POSITION + | |
| + | control lever |
| + | position degree : 78.0 |
| control lever | tolerance degree : +- 4.0 |
| position degree : -3 | • |
| Rated speed rpm : 800 + | Setting point w/out bumper spring |
| The second secon | TTO TO TO THE WINDS WORTHOUT OF THE |
| Rack travel in mm: 0.65 | Rated speed rpm : 100 |
| Tolerance mm : + 0.35 | nated speed (pill . 100 |
| TO LET GILLE IMIL | CDT 10 00 |
| † | CRT mm min. :> 19.00 |
| governor spring + | |
| pre-tension + | Testing: |
| click setting x : 3.50 + | |
| + | Rated speed rpm : 400 |
| + | rack travel mm : 6.25 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Tolerance mm : +- 0.10 |
| 1 | |
| Rated speed rpm : 750 | |
| Aneroid pressure | TORQUE CONTROL |
| hPa : - | Rated speed rpm : 750 |
| Del. quantity | rack travel mm : 13.05 |
| vec. qualities | IGUN CIQVEC 1868 . IJ.UJ |
| cm7/1000 etrokes • 190 5 | Tolerance mm · + O OE |
| cm3/1000 strokes : 180.5 + | Tolerance mm : \leftarrow 0.05 |

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : **←** 1.00

Del. quantity

cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s.: +- 13.0

LOW IDLE

Rated speed rpm : 400

6.25 Rack travel in mm: Tolerance mm : **←** 0.10

Del. quantity

cm3/1900 strokes : 18.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.01.98 Test oil : ISO 4113

Combination No. : 0 403 466 156

Injection pump

Pump designation : PES6MW100/120RS1238.

EP type number : 0 413 406 237

Governor

Governer design. : RSV450...1100MW2A374

6overner no. : 0 420 085 257

cust. part No. : 3926881

Customer—spec. information

Customer : CDC

Motor : 6 CT-830 Power KW : 160.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 8.00 Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.00 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 143.0

| Tolerance cm3/1000 strokes | : +- 1.0 | | |
|---|--------------------|--|--|
| Check tolerance cm3/1000s. | : + 4.0 | | |
| Spreed | | | |
| Tolerance cm3/1000 strokes | : 4.0 | | |
| Check tolerance cm3/1000s. | : 7.5 | | |
| | | | |
| Rated speed rpm | : 450 | | |
| Rack travel in mm Tolerance mm | : 5.00 : + 0.20 | | |
| | : 12.0 | | |
| Tolerance cm3/1000 strokes | : ← 2.0 | | |
| Check tolerance cm3/1000s. Spreed | : + 4.5 | | |
| Tolerance | : 3.5 | | |
| Check tolerance cm3/1000s. | : 5.5 | | |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | | | |
| GUIDE SLEEVE POSIT | ION | | |
| control lever position degree Rated speed rpm | : - 3 : 800 | | |
| Rack travel in mm Tolerance mm | : 0.65 : ← 0.35 | | |
| governor spring pre-tension click setting x | : 5.50 | | |
| FULL LOAD DELIVERY | AT FULL LOAD STOP | | |
| Rated speed rpm Aneroid pressure | : 1100 | | |
| hPa Del. quantity | : 1100 | | |
| cm3/1000 strokes | : 143.0 | | |

| Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : + 1.0 : + 4.0 : 4.0 : 7.5 |
|--|--------------------------------------|
| CONTROL LEVER | |
| control lever position degree tolerance degree | : 110.0 : + 4.0 |
| RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min | : 11.00 : 1150 : + 5 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 4.00 : 1265 : +- 15 |
| rack travel mm Tolerance mm Rated speed rpm | : 0.85 : + 0.55 : 1375 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 4.00 : 1275 : +- 15 |
| LOW IDLE | |
| control lever position degree tolerance degree | : 88.0 : + 4.0 |

tolerance degree : + 4.0 Setting point w/out bumper spring

Rated speed rpm : 450 rack travel mm : 4.80 Tolerance mm : $\leftarrow 0.10$

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : + 0.20

| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : : : + | 1100 12.00 - 0.05 |
|---|---------------|-------------------------|
| Rated speed rpm | : | 750 |
| rack travel mm | : | 12.35 |

: ← 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

Tolerance mm

SETTING

Rated speed rpm : 500
Pressure hPa : 1100
rack travel mm : 12.45
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 10.40
Tolerance mm : +- 0.05

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 850 rack travel mm : 11.90 Tolerance mm : + 0.20

Pressure hPa : 625
rack travel mm : 11.00
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure 1100 hPa 750 Rated speed rpm Del. quantity cm3/1000 strokes : 154.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance

9.0

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 115.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Check hydraulic start locking and unlocking device with 500...1000 hPa.

| Rated speed rpm | : | | 100 |
|------------------|---|----|-------|
| rack travel mm | : | | 20.00 |
| Tolerance man | : | +- | 1.00 |
| Del. quantity | | | |
| cm3/1000 strokes | : | | 170.0 |
| Tolerance | | | |
| cm3/1000 strokes | : | +- | 10.0 |
| Check tolerance | | | |
| cm3/1000s. | : | +- | 13.0 |

LOW IDLE

| Rated speed rpm | : | | 450 |
|--|---|----|--------------|
| Rack travel in mm Tolerance mm | : | +- | 5.00 0.20 |
| Del. quantity cm3/1000 strokes Tolerance | : | | 12.0 |
| cm3/1000 strokes Check tolerance | : | +- | 2.0 |
| cm3/1000s. Spreed | : | + | 4.5 |
| Tolerance cm3/1000 strokes Check tolerance | : | | 3.5 |
| cm3/1000s. | : | | 5.5 |

End of test specification sheet

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 13.01.98 : ISO 4113

Combination No. : 0 403 466 168

Injection pump

Pump designation : PES6MW100/120RS1238.

EP type number : 0 413 406 237

6overnor

Governer design. : RSV450...1000MW2A389

Governer no. : 0 420 085 269

Cust. part No. : 3929167

Customer-spec. information

Customer : CDC

Motor Power KW : 6 CT-830 : 134.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance *C

: 40 : ← 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar $: \leftarrow 1.5$

Test lines : 1 680 750 014

Outside diameter : 6.0

M11

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar:

Tolerance bar : + 1.0

Prestroke mm : 2.80 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.10

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 132.0

| Tolerance 4 | Tolerance |
|--|---|
| cm3/1000 strokes : + 1.0 | cm3/1000 strokes : +- 1.0 |
| <u> </u> | Check tolerance |
| Check tolerance | cm3/1000s. : +- 4.0 |
| $cm3/1000s.$: \leftarrow 4.0 | Spreed |
| Sanad | Tolerance cm3/1000 strokes : 4.0 |
| Spreed | cm3/1000 strokes : 4.0 Check tolerance |
| Tolerance | cm3/1000s. : 7.5 |
| cm3/1000 strokes : 4.0 | . 7.5 |
| | |
| Check tolerance | |
| cm3/1000s. : 7.5 | CONTROL LEVER |
| | and I lave |
| † | control lever |
| Rated speed rpm : 425 | position degree : 96.0 tolerance degree : +- 4.0 |
| ndeed speed (pii . 425 | totel affee degree 4.0 |
| Rack travel in mm: 5.50 | RATED SPEED |
| Tolerance mm : + 0.20 | rack travel mm : 10.10 |
| Del. quantity | Rated speed rpm : 1040 |
| cm3/1000 strokes : 25.0 | Tolerance 1/min : +- 5 |
| Tolerance | |
| cn3/1000 strokes : + 2.0 | rack travel mm : 4.00 |
| Check tolerance + 4.5 + 4.5 | Rated speed rpm : 1115 Tolerance 1/min : +- 15 |
| Spreed | Toterance Triain . +- 13 |
| Tolerance | rack travel mm : 0.85 |
| cm3/1000 strokes : 3.5 | Tolerance m : $\leftarrow 0.55$ |
| Check tolerance | Rated speed rpm : 1250 |
| cm3/1000s. : 5.5 | · |
| + | rack travel mm : 4.00 |
| + | Rated speed rpm : 1120 |
| (B) SETTING OF INJECTION PUMP | Tolerance 1/min : +- 15 |
| WITH GOVERNOR | |
| I | |
| | |
| GUIDE SLEEVE POSITION | LOW IDLE |
| † | |
| control lever | control lever |
| position degree : - 3 | position degree : 77.0 |
| Rated speed rpm : 800 | tolerance degree : + 4.0 |
| 1,0000 0,0000 1,000 | socol alignos degli es i i i i i i i i i i i i i i i i i i |
| Rack travel in mm: 0.65 | Setting point w/out bumper spring |
| Tolerance mm : + 0.35 + | |
| † | Rated speed rpm : 425 |
| governor spring | rack travel mm : 5.00 Tolerance mm : +- 0.10 |
| pre-tension + click setting x : 5.50 + | Tolerance mm : +- 0.10 |
| tilik setting x . 5.50 | Rated speed rpm : 100 |
| | יייים אייים איי |
| FULL LOAD DELIVERY AT FULL LOAD STOP | CRT mm min. :> 19.00 |
| + | |
| Rated speed rpm : 1000 | Testing: |
| Aneroid pressure | D 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| hPa : 1000 | Rated speed rpm : 425 |
| Del. quantity + cm3/1000 strokes : 132.0 + | rack travel mm : 5.50 Tolerance mm : +- 0.20 |
| cm3/1000 strokes : 132.0 + | Tolerance mm : +- 0.20 |

M12

TORQUE CONTROL Rated speed rpm : 1000 rack travel mm

11.10 : +- 0.05

Rated speed rpm : rack travel mm

700 11.90

Tolerance ma

Tolerance ma

: + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 1000 Pressure hPa rack travel mon 11.90

Tolerance m : + 0.10

Rated speed rpm 500 Pressure hPa 10.30 rack travel mm : + 0.05Tolerance mm

MEASUREMENT

500 Rated speed rpm :

650 Pressure hPa 11.05 rack travel mm Tolerance mm : + 0.15

Pressure hPa 550 rack travel mm 10.65 : + 0.10Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 1000 Rated speed rpm : 700 Del. quantity

cm3/1000 strokes : 148.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +-5.0 Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s.9.0 Aneroid pressure

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 117.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +-4.0

STARTING FUEL DELIVERY

Check hydraulic start locking and unlocking device with 500...1000 hPa.

Rated speed rpm 100 rack travel mm 20.00 Tolerance mm : **←** 1.00 Del. quantity

cm3/1000 strokes : 170.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : **←** 13.0

LOW IDLE

Rated speed rpm : 425

Rack travel in mm : 5.50 Tolerance mm : +- 0.20

Del. quantity

cm3/1000 strokes : 25.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0 Check tolerance

cm3/1000s. : + 4.5 Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s.5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.01.98 Test oil : ISO 4113

Combination No. : 0 403 466 173

Injection pump

Pump designation : PES6MW100/120RS1241

EP type number : 0 413 406 240

Governor

Governer design. : RSV400...950MW0A384

: -1

Governer no. : 0 420 085 285

Cust. part No. : 3930118

Customer—spec. information Customer : CDC Motor : 6 CT Power KW : 145.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : ← 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 12.50
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 147.0

iou strokes :

| Tolerance | + Tolerance |
|---|---------------------------------------|
| cm3/1000 strokes : +- 1.0 | + cm3/1000 strokes : + 1.0 |
| CH2/ 1000 Strokes 1.0 | Check tolerance |
| Charle And annual | |
| Check tolerance | + cm3/1000s. : $+$ 4.0 |
| cm3/1000s. : +- 4.0 | + Spreed |
| | + Tolerance |
| Spreed | + cm3/1000 strokes : 4.0 |
| | + Check tolerance |
| Tolerance | + cm3/1000s. : 7.5 |
| cm3/1000 strokes : 4.0 | 1 |
| CIE/ 1000 Strokes . T.U | I |
| Check tolerance | T |
| | CONTROL LEVEN |
| cm3/1000s. : 7.5 | + CONTROL LEVER |
| | † |
| | + control lever |
| | + position degree : 82.0 |
| Rated speed rpm : 400 | + tolerance degree : + 4.0 |
| | + |
| Rack travel in mm: 5.60 | + RATED SPEED |
| Tolerance mm : + 0.30 | rack travel mm : 11.50 |
| Del. quantity | + Rated speed rpm : 995 |
| cm3/1000 strokes : 22.0 | Tolerance 1/min : + 5 |
| Tolerance | T locerance mini 3 |
| | 1 |
| cm3/1000 strokes : + 2.0 | + rack travel mm : 4.00 |
| Check tolerance | + Rated speed rpm : 1080 |
| cm3/1000s. : +- 4.5 | + Tolerance 1/min : +- 15 |
| Spreed | + |
| Tolerance | + rack travel mm : 0.85 |
| cm3/1000 strokes : 3.5 | + Tolerance mm : +- 0.55 |
| Check tolerance | Rated speed rpm : 1250 |
| cm3/1000s. : 5.5 | , , , , , , , , , , , , , , , , , , , |
| · | rack travel mm : 4.00 |
| | Rated speed rpm : 1095 |
| (B) SETTING OF INJECTION PUMP | |
| | + Tolerance 1/min : +- 15 |
| WITH GOVERNOR | † |
| | † |
| | † |
| CUITATE OF CENTE PAGETTAN | 1011 701 5 |
| GUIDE SLEEVE POSITION | + LOW IDLE |
| | † |
| | † |
| control lever | + control lever |
| position degree : -3 | + position degree : 68.0 |
| Rated speed rpm : 800 | tolerance degree : + 4.0 |
| • | + |
| Rack travel in mm: 0.65 | + Setting point w/out bumper spring |
| Tolerance mm : + 0.35 | Total Branch and and animal objection |
| 1 C C C C C C C C C C C C C C C C C C C | Rated speed rpm : 400 |
| dollarman chrind | + rack travel mm : 5.30 |
| governor spring | |
| pre-tension | + Tolerance mm : + 0.10 |
| click setting x : 3.25 | † |
| | + Rated speed rpm : 100 |
| | + |
| FULL LOAD DELIVERY AT FULL LOAD STOP | + CRT mm min. : > 19.50 |
| | + |
| Rated speed rpm : 950 | + Testing: |
| Aneroid pressure | 1 |
| hPa : 1200 | Rated speed rpm : 400 |
| | rack travel mm : 5.60 |
| Del. quantity | Tolonomo mo 1 0 70 |
| cm3/1000 strokes : 147.0 | + Tolerance mm : $+$ 0.30 |
| | |

| rack travel mma Rated speed rpm Tolerance 1/min | : 2.00 : 505 : + 35 |
|---|--|
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 950 : 12.50 : ← 0.05 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed nim Pressure hPa rack travel mm Tolerance mm | : 500 : 1200 : 12.50 : ← 0.05 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : - : 10.25 : + 0.10 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 850 : 11.60 : ← 0.20 |
| Pressure hPa rack travel mm Tolerance mm | : 680 : 10.75 : + 0.10 |

| COMPENSATOR TEST | |
|---|--|
| SETTING | |
| Rated speed non Pressure hPa rack travel mm Tolerance mm | : 500 : 1200 : 12.50 : + 0.05 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : - : 10.25 : + 0.10 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 850 : 11.60 : + 0.20 |
| Pressure hPa rack travel mm Tolerance mm | : 680 : 10.75 : +- 0.10 |
| FUEL DELIVERY CHA | ARACTERISTICS |
| Aneroid pressure | : - |
| Rated speed rpm | : 500 |
| Del. quantity cm3/1000 strokes Tolerance | : 118.0 |
| cm3/1000 strokes | : +- 1.0 |
| Check tolerance cm3/1000s. | : +- 4.0 |

| rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | | |
|--|--------------------|--|
| LOW IDLE | | |
| Rated speed rpm | : 400 | |
| Rack travel in man Tolerance man | : 5.60 : + 0.30 | |
| Del. quantity cm3/1000 strokes Tolerance | : 22.0 | |
| cm3/1000 strokes Check tolerance | : + 2.0 | |
| cm3/1000s. Spreed | : + 4.5 | |
| Tolerance cm3/1000 strokes Check tolerance | : 3.5 | |
| cm3/1000s. | : 5.5 | |

End of test specification sheet

STARTING FUEL DELIVERY

Rated speed rpm : 100

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 13.01.98 : ISO 4113

Combination No. : 0 403 466 180

Injection pump

Pump designation: PES6MW100/120RS1238.

EP type number : 0 413 406 237

Governor

Governer design. : RSV425...1150MW2A407

Governer no. : 0 420 085 298

Cust. part No. : 3284067

Customer-spec. information

Customer : CDC : 6 CT Motor Power KW : 129.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

31.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.80 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance 'NW : **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 8.25

Barrel no. :

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 9.95 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 119.0

| Tolerance cm3/1000 strokes : + 1.0 | Tolerance cm3/1000 strokes : + 1.0 Check tolerance |
|---|---|
| Check tolerance cm3/1000s. : + 4.0 | cm3/1000s. : + 4.0 Spreed Tolerance |
| Spreed | cm3/1000 strokes : 4.0 |
| Tolerance cm3/1000 strokes : 4.0 | cm3/1000s. : 7.5 |
| Check tolerance : 7.5 | CONTROL LEVER |
| Rated speed rpm : 440 | control lever position degree : 109.0 tolerance degree : +- 4.0 |
| Rack travel in mm : 5.25 | RATED SPEED |
| Tolerance mm : + 0.10 Del. quantity | + rack travel mm : 8.90 + Rated speed rpm : 1200 |
| cm3/1000 strokes : 24.5 Tolerance | Tolerance 1/min : +- 5 |
| cm3/1000 strokes : +- 2.0 Check tolerance | rack travel mm : 4.00 Rated speed rpm : 1300 |
| cm3/1000S. : + 4.5 Spreed | Tolerance 1/min : +- 5 |
| Tolerance cm3/1000 strokes : 3.5 | rack travel mm : 1.00 |
| Check tolerance | Rated speed rpm : 1400 |
| cm3/1000s. : 5.5 | † † rack travel mm : 4.00 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | Rated speed rpm : 1300 Tolerance 1/min : +- 15 |
| GUIDE SLEEVE POSITION | LOW IDLE |
| control lever position degree : - 3 Rated speed rpm : 800 | control lever position degree : 87.0 tolerance degree : +- 4.0 |
| Rack travel in mm: 0.65 Tolerance mm: + 0.35 | Setting point w/out bumper spring |
| | Rated speed rpm : 440 |
| governor spring pre-tension | rack travel mm : 4.75 Tolerance mm : + 0.10 |
| click setting x : 3.75 | Rated speed rpm : 100 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | CRT mm min. : > 19.00 |
| Rated speed rpm : 1150 Aneroid pressure | Testing: |
| hPa : 900 Del. quantity | Rated speed rpm : 440 rack travel mm : 5.25 |
| cm3/1000 strokes : 119.0 | + Tolerance mm : + 0.10 |

| | | + Del. quantity | • |
|-------------------|-----------------|---------------------------------------|-----|
| TORQUE CONTROL | | + Tolerance | • |
| Rated speed rpm | : 1150 | + cm3/1000 strokes | • |
| rack travel ma | 9.95 | + Check tolerance | • |
| Tolerance mm | : ← 0.05 | cm3/1000s. | |
| TOTE OFFICE MAN | 0.05 | + | • |
| Rated speed rpm | : 750 | + | |
| rack travel mm | : 10.20 | | |
| Tolerance mm | : ← 0.10 | + STARTING FUEL DE | LIV |
| | | Rated speed rpm | : |
| ANEROID/ALTITUDE | | + rack travel mm | : |
| COMPENSATOR TEST | | † Tolerance mm | : |
| | | + Del. quantity | |
| | | - cm3/1000 strokes | : |
| SETTING | | ↓ Tolerance | |
| | | + cm3/1000 strokes | : |
| Rated speed rpm | : 500 | + Check tolerance | |
| Pressure hPa | : 900 | + cm3/1000s. | : |
| rack travel mm | | 1 | - |
| Tolerance mm | | + | |
| Rated speed rpm | : 500 | t | |
| ressure hPa | • - | LOW IDLE | |
| rack travel mm | 10.10 | T COM IDEE | |
| folerance mm | : + 0.20 | Rated speed rpm | : |
| | | Rack travel in m | |
| HEASUREMENT | | · · · · · · · · · · · · · · · · · · · | m : |
| | | + Tolerance mm | : |
| ated speed rpm | : 500 | + Del. quantity | |
| • = | | + cm3/1000 strokes | : |
| ressure hPa | ; 550 | + Tolerance | |
| ack travel mm | : 10.25 | + cm3/1000 strokes | : |
| rolerance mm | : ← 0.05 | + Check tolerance | |
| | | + cm3/1000s. | : |
| | | + Spreed | |
| | | Tolerance | |
| TUEL DELIVERY CHA | RACTERISTICS | | : |
| | | + Check tolerance | |
| | | - + cm3/1000s. | : |
| neroid pressure | | + | • |
| nPa | : 900 | + | |
| Rated speed rpm | : 750 | + | |
| Del. quantity | | + | |
| cm3/1000 strokes | : 123.0 | + | |
| Tolerance | | + End of test spec | ifi |
| m3/1000 strokes | : +- 2.0 | + | |
| check tolerance | | | |
| cm3/1000s. | : ← 5.0 | 1 | |
| Spreed | | 1 | |
| Tolerance | | Ţ | |
| cm3/1000 strokes | : 6.0 | I | |
| | . 0.0 | I | |
| Check tolerance | | T | |
| cm3/1000s. | : 9.0 | ‡ | |
| | | - + | |
| Aneroid pressure | . – | † | |
| Pa | | Ť | |
| ated speed rpm | : 500 | † | |
| | | | |

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+ 1.0 +- 3.0 /ERY 100 20.50 + 1.00 177.0 +- 10.0 **←** 13.0 440 5.25 + 0.10 24.5 + 2.0 +- 4.5 3.5 5.5 cation sheet

115.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.01.98 Test oil : 180 4113

Combination No. : 0 402 034 701AA

Injection pump

Pump designation : PES4P120B120RS3379 .

EP type number : 0 412 024 702

Governor

Governer design. : RQV475...1250PA1316K

Governer no. : 0

Cust. part No. : 3933365

Customer-spec. information Customer : CDC Motor : 4BTA-A Power KW : 86.4

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : \leftarrow 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance n_0 : \leftarrow 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing Phasing Tolerance

: +- 0.50

Check

tolerance "NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 10.50 Tolerance mm : +- 0.15

M20

| Del. quantity cm3/1000 strokes : 126.5 | ‡ | | |
|--|----------|------------------------------------|-------------------------------|
| | + | CONTROL LEVER | |
| Tolerance cm3/1000 strokes : + 1.0 | | control lever position degree | |
| Check tolerance cm3/1000S. : +- 3.0 | <u> </u> | tolerance degree | : +- 6.0 |
| Spreed | 1 | rack travel mm Rated speed rpm | : 9.20 : 1345 |
| Tolerance cm3/1000 strokes : 8.0 | 1 | Tolerance 1/min | : + 15 : 6.40 |
| Check tolerance cm3/1000s. : 12.0 | . | Rated speed rpm Tolerance 1/min | : 1390 : +- 5 |
| Rated speed rpm : 475 | | rack travel mm Tolerance mm | : 0.50 : +- 0.50 : 1475 |
| , , , , , , , , , , , , , , , , , , , | Į | Rated speed rpm | • 1417 |
| Rack travel in mm: 5.70 Tolerance mm: + 0.10 | • | | |
| Del. quantity | Ţ | | |
| cm3/1000 strokes : 26.5 Tolerance | 1 | LOW IDLE | |
| cm3/1000 strokes : +- 2.0 | Ţ | | |
| Check tolerance cm3/1000S. : +- 5.0 | † | control lever position degree | : 73.0 |
| Spreed | Ţ | tolerance degree | |
| Tolerance cm3/1000 strokes : 4.0 | 1 | Control lever diffe | aranca |
| Check tolerance | + | Grad | : 46.0 |
| cm3/1000s. : 8.0 | 1 | tolerance degree | : +- 6.0 |
| (B) SETTING OF INJECTION PUM | , | Setting point w/ou | t bumper spring |
| WITH GOVERNOR | Ţ | | : 400 |
| | ‡ | CRT mm min. | : > 7.00 |
| FULL LOAD DELIVERY AT FULL L | OAD STOP | Testing: | |
| Rated speed rpm : 1250 Aneroid pressure | İ | Rated speed rpm rack travel mm | : 475 : 5.70 |
| hPa : 1200 | Į | | · + 0.10 |
| Del. quantity cm3/1000 strokes : 126.5 | + | Rated speed rpm | : 550 |
| Tolerance cm3/1000 strokes : +- 1.0 | Ţ | | |
| Check tolerance cm3/1000s. : +- 3.0 | <u>†</u> | TORQUE CONTROL Rated speed rpm | : 1250 |
| Spreed : 7- 3.0 | Ţ | rack travel mm | : 10.50 |
| Tolerance | + | Tolerance mm | : + 0.15 |
| cm3/1000 strokes : 8.0 Check tolerance | ‡ | Rated speed rpm | : 750 |
| cm3/1000s. : 12.0 | + | rack travel mm | : 10.15 : + 0.20 |

| ANEROID/ALTITUDE COMPENSATOR TEST | |
|--|-------------------------------------|
| SETTING | |
| Rated speed rpm Pressure hPa | : 1250 : 1250 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mma | : 1250 : - : 9.45 : + 0.20 |
| MEASUREMENT | |
| Rated speed rpm | : 1250 |
| Pressure hPa rack travel mm Tolerance mm | : 800 : 10.50 : +- 0.20 |
| Pressure hPa rack travel mm Tolerance mm | : 680 : 9.85 : ← 0.20 |
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 100 : < 375 |
| Check speed 1/min Check | : > 80 |
| speed 1/min | : < 385 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm Del. quantity | : 1200 : 750 |
| cm3/1000 strokes Tolerance | : 118.0 |
| cm3/1000 strokes Check tolerance | : - 3.0 |
| cm3/1000s. Spreed | : + 6.0 |
| Tolerance cm3/1000 strokes | : 8.0 |
| Check tolerance cm3/1000s. | : 12.0 |
| | |

| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : |
|---|---------------------|
| STARTING FUEL DEL | IVERY |
| Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | |
| LOW IDLE | |
| Rated speed rpm | : 475 |
| Rack travel in mm Tolerance mm Del. quantity | : +- 0.10 |
| cm3/1000 strokes Tolerance | |
| cm3/1000 strokes Check tolerance | : +- 2.0 |
| cm3/1000S. Spreed Tolerance | : + 5.0 |
| cm3/1000 strokes Check tolerance | : 4.0 |
| cm3/1000s. | : 8.0 |
| | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 09.01.98 : ISO 4113

Combination No. : 0 402 076 817

Injection pump

Pump designation : PES6P120A720RS3367 .

EP type number : 0 412 026 788

Governor

Governer design. : RSV525...1000P2A640

: -1

Governer no.

: 0 421 833 604

cust. part No. : RE71286

Customer-spec. information Customer : DEERE Motor : 6081HT001 : 186.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter :

x Length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 7.50 Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

14,00 travel Difference * CS : 2.50

BASIC SETTING

Rated speed rpm : 1000

| | † |
|--|--|
| Rack travel in mm : 13.00 - Tolerance mm : + 0.05 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Del. quantity cm3/1000 strokes : 176.0 | Aneroid pressure + hPa : 1400 - Del. quantity |
| Tolerance cm3/1000 strokes : + 1.0 | - cm3/1000 strokes : 176.0 - Tolerance - cm3/1000 strokes : + 1.0 |
| Check tolerance cm3/1000s. : + 3.0 | Check tolerance cm3/1000s. : +- 3.0 |
| Spreed | + Spreed + Tolerance |
| Tolerance cm3/1000 strokes : 4.0 | cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5 |
| Check tolerance cm3/1000s. : 6.5 | CONTROL LEVER |
| Rated speed rpm : 525 Rack travel in mm : 5.10 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 26.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s : +- 4.5 | control lever position degree : 89.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.00 Rated speed rpm : 1070 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1115 |
| Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance | Tolerance 1/min : + 5 rack travel mm : 0.85 Tolerance mm : + 0.55 |
| cm3/1000s. : 8.0 | Rated speed rpm : 1200 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | rack travel mm : 4.00 Rated speed rpm : 1115 Tolerance 1/min : +- 15 |
| GUIDE SLEEVE POSITION | LOW IDLE |
| control lever position degree : - 3 Rated speed rpm : 800 | control lever position degree : 72.0 tolerance degree : +- 4.0 |
| Rack travel in mm : 0.50 Tolerance mm : + 0.20 | Setting point w/out bumper spring |
| governor spring pre-tension click setting x : 3.00 | Rated speed rpm : 525 rack travel mm : 4.60 Tolerance mm : + 0.10 |

| TOLL LOAD DELIVER | AT FOLL EURD STOP |
|--|--------------------|
| Rated speed rpm | : 1000 |
| Aneroid pressure hPa | : 1400 |
| Del. quantity cm3/1000 strokes Tolerance | : 176.0 |
| cm3/1000 strokes Check tolerance | : + 1.0 |
| cm3/1000s. Spreed | : ← 3.0 |
| Tolerance cm3/1000 strokes | : 4.0 |
| Check tolerance cm3/1000s. | : 6.5 |
| | |
| CONTROL LEVER | |
| control lever | : 89.0 |
| position degree tolerance degree | |
| RATED SPEED rack travel mm | : 12.00 |
| Rated speed rpm Tolerance 1/min | : 1070 : +- 5 |
| rack travel mm Rated speed rpm | : 4.00 : 1115 |
| Tolerance 1/min | : 1115 : ← 5 |
| rack travel mm Tolerance mm | : 0.85 : + 0.55 |
| Rated speed rpm | : 1200 |
| rack travel mm Rated speed rpm | : 4.00 : 1115 |
| Tolerance 1/min | : +- 15 |
| | |
| LOW IDLE | |
| control lever | |
| position degree tolerance degree | : 72.0 : + 4.0 |
| Setting point w/ou | |
| | |

Rated speed rpm 100 : > 19.00 CRT me min. Testing: 525 Rated speed rpm rack travel mm 5.10 : **←** 0.10 Tolerance mm TORQUE CONTROL 1000 Rated speed rpm : rack travel mm 13.00 Tolerance mm : **←** 0.05 700 Rated speed rpm 13.80 rack travel mm Tolerance mm : + 0.10ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm : Pressure hPa 1400 500 Rated speed rpm Pressure hPa 12.25 rack travel mm : + 0.10Tolerance mm MEASUREMENT Rated speed rpm 500 975 Pressure hPa 13.40 rack travel mm : **-** 0.20 Tolerance mm Pressure hPa 830 12.70 rack travel mm Tolerance mm : **+-** 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1400 hPa 700 Rated speed rpm Del. quantity cm3/1000 strokes : 197.5 Tolerance cm3/1000 strokes : \leftarrow 2.0

Check tolerance : +- 4.0 cm3/1000s. Aneroid pressure Rated speed rpm 500 Del. quantity cm3/1000 strokes : 166.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. STARTING FUEL DELIVERY Rated speed rpm 100 20.50 rack travel mm Tolerance mm : + 0.50Del. quantity cm3/1000 strokes : 105.0 Tolerance cm3/1000 strokes : + 20.0Check tolerance cm3/1000s. : +- 25.0 LOW IDLE Rated speed rpm : 525 5.10 Rack travel in mm : Tolerance mm : + 0.10Del. quantity cm3/1000 strokes : 26.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 15.12.97 Test oil : ISO 4113

Combination No. : F 002 A0Z 079

Injection pump

Pump designation : PES4A95D12ORS2941 EP type number : F 002 A70 024

Governor

Governer design. : RQV475...1250AB1329R

Governer no. : F 002 A30 004

Cust. part No. : 3933691

Customer—spec. information Customer : CDC Motor : 4BNA Power KW : 59.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0Tolerance bar : \leftarrow 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 01+

Outside diameter: 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : +- 0.50 Check

uneck

tolerance "NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.00 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 87.0

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| Tolerance cm3/1000 strokes | : ← 1.0 ‡ | guide sleeve travel mm : 11.50 Tolerance mm : +- 0.50 |
|--|--------------------|--|
| Check tolerance cm3/1000s. | : + 3.0 | |
| Spreed | + | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance cm3/1000 strokes | : 3.5 | Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity |
| Check tolerance cm3/1000s. | : 6.0 | cm3/1000 strokes : 87.0 Tolerance cm3/1000 strokes : + 1.0 |
| Data d | | Check tolerance cm3/1000s. : +- 3.0 |
| Rated speed rpm | + | Spreed Tolerance |
| Rack travel in mm Tolerance mm | : 5.35 : + 0.10 | cm3/1000 strokes : 3.5 Check tolerance |
| Del. quantity cm3/1000 strokes Tolerance | : 15.0 | cm3/1000s. : 6.0 |
| cm3/1000 strokes Check tolerance | + | CONTROL LEVER |
| cm3/1000s. Spreed Tolerarice | : + 4.5 | control lever position degree : 100.0 |
| cm3/1000 strokes Check tolerance | : 3.5 | tolerance degree : +- 6.0 |
| cm3/1000s. | : 5.5 | RATED SPEED rack travel mm : 9.00 Rated speed rpm : 1300 |
| (B) SETTING OF IN | JECTION PUMP | Tolerance 1/min : + 15 |
| | | rack travel mm : 4.00 Rated speed rpm : 1390 |
| GUIDE SLEEVE TRAV | EL + | Tolerance 1/min : + 5 |
| Rated speed rpm guide sleeve | : 1310 | rack travel mm : 0.50 Tolerance mm : +- 0.50 |
| travel mm Tolerance mm | : 8.60 : + 0.15 | Rated speed rpm : 1475 |
| Rated speed rpm guide sleeve | : 475 | |
| travel mm Tolerance mm | : 1.90 : + 0.20 | LOW IDLE |
| Rated speed rpm guide sleeve | : 930 | control lever position degree : 70.0 |
| travel mm Tolerance mm | : 5.25 : + 0.25 | tolerance degree : + 6.0 |
| Rated speed rpm guide sleeve | : 630 | Control lever difference Grad : 30.0 tolerance degree : +- 6.0 |
| travel mm Tolerance mm | : 3.30 : + 0.25 | Setting point w/out bumper spring |
| Rated speed rpm | : 1630 | Rated speed rpm : 400 |
| | | |

CRT mm min. :> 7.00

Testing:

Rated speed rpm : 475 rack travel mm : 5.35 Tolerance mm : + 0.10

Rated speed rpm : 550

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 10.00 Tolerance mm : + 0.05

Start interlock

Rated speed rpm :> 100 Rated speed rpm :< 385

Check

speed 1/min :> 80 Check speed 1/min :< 395

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : + 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm: 5.35
Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 15.0

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : + 4.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

End of test specification sheet

M28

Note remarks

Refer to Service Info for test and adjustment instructions.

Edition Test oil

: 13.01.98 : ISO 4113

Combination No. : 0 400 845 050

Injection pump

Pump designation : PES5A950410RS2417 EP type number : 0 410 895 993

Governor Governer design. : RQ750AB1240L

Governer no. : 0 420 200 110

Cust. part No. :

Customer-spec. information

Customer : KHD

Motor

: F5L413FR

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: **←** 1.5

Test Lines : 1 680 750 014

Outside diameter :

x inside diameter :

2.0

NO1

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.45 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 102.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes :

3.5

Check tolerance

nm3/1000s.

6.0

Rated speed rpm : 250

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s.

: **←** 5.5

Spreed

| tm3/1000 strokes theck tolerance | : 3.5 |
|-------------------------------------|------------------------------|
| cm3/1000s. | : 5.5 |
| (B) SETTING OF IN WITH GOVERNOR | JECTION PUMP |
| FULL LOAD DELTVER | Y AT FULL LOAD STOP |
| Rated speed rpm | : 700 |
| nPa . | : - |
| Del. quantity | 402.0 |
| cm3/1000 strokes Folerance | : 102.0 |
| m3/1000 strokes | : + 1.0 |
| Check tolerance | |
| cm3/1000s. Spreed | : ← 3.0 |
| Folerance | |
| m3/1000 strokes | : 3.5 |
| Check tolerance cm3/1000s. | : 6.0 |
| .ms/ 1 00 03. | . 0.0 |
| RATED SPEED | |
| rack travel mm | : 9.40 |
| Rated speed rpm Folerance 1/min | : 753 : +- 3 |
| oterance (/min | ; |
| ack travel mm | : 3.70 |
| Rated speed rpm Tolerance 1/min | : 783 : ← 5 |
| oterance //min | · |
| FORQUE CONTROL | |
| Rated speed rpm | : 700 |
| rack travel mm | : 700 : 10.45 : ← 0.05 |
| olerance mm | ; 0.05 |
| Rated speed rpm | : 500 |
| rack travel mm | : 500 : 10.50 : ← 0.10 |
| olerance mm | . — 0.10 |
| Start interlock | |
| loted apped | . > 100 |
| Rated speed rpm Rated speed rpm | : > 100 : < 640 |
| open com | |
| | |
| Check Speed 1/min | : > 80 |

| STARTING FUEL DE | LIV | ERY | |
|----------------------------------|-----|-----|-------|
| Rated speed rpm | : | | 100 |
| rack travel mm | : | | 14.20 |
| Tolerance mm | : | +- | 0.20 |
| Del. quantity cm3/1000 strokes | | | 125.0 |
| Tolerance | • | | 163.0 |
| cm3/1000 strokes | : | + | 5.0 |
| Check tolerance | | | |
| cm3/1000s. | : | +- | 8.0 |
| LOW IDLE | | | |
| Rated speed rpm Del. quantity | : | | 250 |
| cm3/1000 strokes | : | | 11.0 |
| Tolerance | | | |
| cm3/1000 strokes | : | +- | 3.0 |
| Check tolerance cm3/1000s. | | _ | 5.5 |
| Spreed | • | T- | ر.ر |
| Tolerance | | | |
| cm3/1000 strokes | : | | 3.5 |
| Check tolerance cm3/1000s. | : | | 5.5 |
| UIIC/ 10000. | • | | ر.ر |

Check speed 1/min : < 660

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 08.01.98 : ISO 4113

Combination No. : 0 400 876 404

Injection pump

Pump designation : PES6A95D410RS2835 EP type number : 0 410 896 896

Governor

Governer design. : RSV650...1050A8C2263

Governer no.

: 0 420 232 583

Cust. part No. : 87 800 648

Customer-spec. information

: FNH-GEOTECH Customer

Motor

: 7.5 L

Power KW

: 149.0

TEST BENCH REQUIREMENTS

Inlet line

: 1.3

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

N03

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 2.60 : + 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm: 14.50

Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 151.5

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s.

: +- 3.0

| Spreed | + Tolerance + cm3/1000 strokes : 3.5 |
|--|--|
| Tolerance cm3/1000 strokes : 3.5 | + Check tolerance |
| Check tolerance | cm3/1000s. : 8.0 |
| cm3/1000s. : 8.0 | CONTROL : EVED |
| 20 Street Street, or the street Street, or the stre | CONTROL LEVER control lever |
| Rated speed rpm : 650 | position degree : 92.0 tolerance degree : + 4.0 |
| Rack travel in mm : 5.40 | total alloc degree |
| Tolerance mm : + 0.10 | + |
| Del. quantity | ASSEMBLY GOVERNOR SETTING |
| cm3/1000 strokes : 23.5 | + |
| Tolerance | + Rated speed rpm : 1087 |
| cm3/1000 strokes : + 2.0 | + rack travel mm : 12.10 |
| Check tolerance | † |
| cm3/1000s. : + 4.5 | + Rated speed rpm : 1117 |
| Spreed | Tolerance 1/min : + 5 |
| Tolerance cm3/1000 strokes : 5.5 | rack travel mm : 4.00 |
| Check tolerance | rack travel mm : 0.85 |
| cm3/1000s. : 9.0 | + Tolerance mm : +- 0.55 |
| . 7.0 | Rated speed rpm : 1225 |
| | The course of the second special second special second special second se |
| (B) SETTING OF INJECTION PUMP | |
| WITH GOVERNOR | Rated speed rpm : 1088 |
| | rack travel mm : 12.10 |
| | + Rated speed rpm : 1118 |
| GUIDE SLEEVE POSITION | + Tolerance 1/min : + 5 |
| | rack travel mm : 4.00 |
| control lever | + rack travel mm : 0.85 |
| position degree : - 3 | + Tolerance mm : + 0.55 |
| Rated speed rpm : 300 | + Rated speed rpm : 1225 |
| Rack travel in mm: 0.50 | ‡ |
| Tolerance mm : + 0.20 | Rated speed rpm : 1089 |
| | + rack travel mm : 12.10 |
| governor spring | + |
| pre-tension | + Rated speed rpm : 1119 |
| click setting x : 2.25 | Tolerance 1/min : + 5 |
| | + rack travel mm : 4.00 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | + rack travel mm : 0.85 |
| | + Tolerance mm : +- 0.55 |
| Rated speed rpm : 750 | + Rated speed rpm : 1225 |
| Aneroid pressure | + |
| hPa : 1200 | + |
| Del. quantity | + Rated speed rpm : 1090 |
| cm3/1000 strokes : 151.5 | + rack travel mm : 12.10 |
| Tolerance | † |
| cm3/1000 strokes : + 1.0 | + Rated speed rpm : 1120 |
| Check tolerance | + Tolerance 1/min : + 5 |
| cm3/1000s. : +- 3.0 Spreed | rack travel mm : 4.00 |
| opi ccu | rack travel mm : 0.85 |
| | |

| Tolerance mm : +- | 0.55 | | |
|---|------------------|--|-------------------|
| | 225 | Rated speed rpm | : 1050 |
| | | rack travel me | : 1050 : 12.80 |
| | 1 | rack travel mma Tolerance mma | : + 0.10 |
| Rated speed rpm : 10 | no1 I | TO COT GIFTE THE | |
| rack travel non : 1 | 2 10 | Rated speed rpm | : 1050 |
| TOOK CIGVEE Many . | 1 | rack travel mm | |
| Rated speed rpm : 1 | 121 I | Tolerance mm | : + 0.10 |
| Tolerance 1/min : +- | | TO CET ON ICE IUM | . 1- 0.10 |
| rack travel mm : | | Rated speed rpm | : 975 |
| THE ET AVEL INN | T. 30 | | : 13.65 |
| rack travel mm : | 0.85 I | rack travel mm Tolerance mm | : + 0.15 |
| | | rocer drice min | . 15 0.15 |
| Tolerance mm : + (Rated speed rpm : 1) | 225 I | | |
| rated speed i pin . | I | ANEROID/ALTITUDE | |
| | I | COMPENSATOR TEST | |
| Rated speed rpm : 1 | . I | COMPERSATOR TEST | |
| rack travel mm : 1 | 2 10 I | | |
| I den travet Hen . I | Z. 10 T | CETTING | |
| Rated speed rpm : 1 | ₁₂₂ T | SETTING | |
| | 5 | Dotod annual | : 500 |
| Tolerance 1/min : +- rack travel mm : | - (| Rated speed rpm | . 1200 |
| rack travel mm : | 4.00 | rressure mra | : 1200 : 14.50 |
| made descriptions and | n oc T | Pressure hPa rack travel mm Tolerance mm | : + 0.10 |
| rack travel mm : +- (| | loterance mm | : - 0.10 |
| | 225 | Data danced mus | . 500 |
| Rated speed rpm : 1 | ²²³ † | Rated speed rpm | |
| | Ť | Pressure hPa | |
| LOUTE | <u> </u> | rack travel mm | |
| LOW IDLE | † | Tolerance mm | : ← 0.10 |
| | Ť | MEACUDEMENT | |
| | † | MEASUREMENT | |
| control lever | 7, 0 | es a chi tico | |
| position degree : | 74.0 | Rated speed rpm | : 500 |
| tolerance degree : +- | 4.0 | | . 705 |
| 0.442 | <u> </u> | Pressure hPa | 325 |
| Setting point w/out bump | er spring + | rack travel mm | |
| Data dama adama | 5 0 | Tolerance mm | : + 0.20 |
| | 50 | D | - FF0 |
| rack travel mm : | 4.90 | Pressure hPa | 550 |
| Tolerance mm : +- (| 0.10 | rack travel mm | 13.55 |
| | <u> </u> | Tolerance mm | : ← 0.05 |
| Rated speed rpm : 1 | w † | | |
| 607 1 - A | a 50 | | |
| CRT mm min. : > 1 | 9.50 | FIFE DEL TUEDY OUA | AATERIATIO |
| T = - 4 1 | † | FUEL DELIVERY CHAI | RACTERISTICS |
| Testing: | † | | |
| Dahad award and | FO. T | Ananaid and and | |
| Rated speed rpm : 6 | 500 | Aneroid pressure | _ |
| rack travel mm : ! | 7.40 | hPa | 500 |
| Tolerance mm : +- (| 0.10 | Rated speed rpm | : 500 |
| made Assessed and | 2.00 | Del. quantity | . 77.0 |
| rack travel mm : | 2.00 | cm3/1000 strokes | : 77.0 |
| Rated speed rpm : 70 | | Tolerance | - 1 2 0 |
| Toleranse 1/min : +- | 30 + | cm3/1000 strokes | · - 2.U |
| | † | Check tolerance | |
| TODOLE CALTRO | T | cm3/1000s. | : +- 4.5 |
| TORQUE CONTROL | | | |
| Rated speed rpm : 7 | † | | |
| rack travel mm : 14 | 4.50 + | OTIOTIVE PUT | ri i e o v |
| Tolerance mm : + (| טר.ט + | STARTING FUEL DEL | LVERY |
| | | | |

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 200.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 13.0

LOW IDLE

Rated speed rpm : 650 Rack travel in mm : 5.40 : **←** 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 23.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance : **←** 4.5 cm3/1000s.Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s.9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 09.01.98 Edition Test oil : ISO 4113

Combination No. : F 002 AOZ 047

Injection pump

Pump designation: PES6A100D320/3RS3513

EP type number : F 002 A10 002

6overnor

Governer design. : RSV450...750A4C926R

: F 002 A20 234 Governer no.

Cust. part No. : 3931254

Customer-spec. information Customer : CDC : 6CT 8.3 Motor : 133.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C

: 2 417 413 093 Overflow valve

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 har Tolerance bar : **+** 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0 x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.55 : ← 0.05 Tolerance mm Check : +- 0.10 tolerance mm

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.25 Tolerance : + 0.10

Check

tolerance °NW ; + 0.29

: 1 Barrel no.

BASIC SETTING

750 Rated speed rpm :

Rack travel in mm : 13.15 Tolerance mm : + 0.05

N07

| | + Aneroid pressure |
|--|---------------------------------------|
| Del. quantity | + hPa : - |
| cm3/1000 strokes : 159.0 | + Del. quantity |
| | + cm3/1000 strokes : 159.0 |
| Tolerance | + Tolerance |
| cm3/1000 strokes : +- 1.0 | + cm3/1000 strokes : +- 1.0 |
| | + Check tolerance |
| Check tolerance | + cm3/1000s. : + 3.0 |
| $cm3/1000s.$: \leftarrow 3.0 | Spreed |
| | + Tolerance |
| Spreed | + cm3/1000 strokes : 4.0 |
| | + Check tolerance |
| Tolerance | + cm3/1000s. : 6.5 |
| cm3/1000 strokes : 4.0 | 1 |
| 1.0 | 1 |
| Check tolerance | |
| cm3/1000s. : 6.5 | CONTROL LEVER |
| . 0.5 | 1 CONTINUE ELVER |
| | T control lever |
| | + position degree : 94.0 |
| Rated speed rpm : 450 | tolerance degree : + 4.0 |
| Rateu speeu rym : 450 | toterance degree : +- 4.0 |
| Rack travel in mm: 5.50 | T RATED SPEED |
| Tolerance mm : + 0.10 | + rack travel mm : 12.10 |
| | |
| Del. quantity | + Rated speed rpm : 810 |
| cm3/1000 strokes : 22.5 | † Tolerance 1/min : + 5 |
| Tolerance | † |
| cm3/1000 strokes : + 2.0 | + rack travel mm : 4.00 |
| Check tolerance | + Rated speed rpm : 840 _ |
| cm3/1000s. : +- 4.5 | + Tolerance 1/min : + 5 |
| Spreed | + |
| Tolerance | + rack travel mm : 0.85 |
| cm3/1000 strokes : 6.0 | + Tolerance mm : + 0.55 |
| Check tolerance | + Rated speed rpm : 925 |
| cm3/1000s. : 8.0 | + |
| | + rack travel mm : 4.00 |
| | + Rated speed rpm : 840 |
| (B) SETTING OF INJECTION PUMP | + Tolerance 1/min : + 15 |
| WITH GOVERNOR | + |
| | 1 |
| | + |
| | |
| GUIDE SLEEVE POSITION | + LOW IDLE |
| | |
| | + |
| control lever | control lever |
| position degree : FREE | + position degree : 75.0 |
| Rated speed rpm : 800 | tolerance degree : + 4.0 |
| THE COURT OF THE C | 1020, and dogree 1. 4.0 |
| Rack travel in mm: 0.50 | Control lever difference |
| Tolerance mm : +- 0.20 | Grad : 19.0 |
| TOCCT OF TOCCT | tolerance degree : + 6.0 |
| governor spring | |
| pre-tension | F Setting point w/out bumper spring |
| click setting x : 2.75 | T second bottle wyode adiabat shiftig |
| CHUN SECTION Y . C.17 | Rated speed rpm : 450 |
| | + rack travel mm : 5.00 |
| CHILL LOAD DELTHEDY AT CHILL LOAD CTOD | |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Tolerance mm : +- 0.10 |
| Data danced number 200 | 7 0-4-4 0 400 |
| Rated speed rpm : 750 | + Rated speed rpm : 100 |

NO8

CRT mm min. : > 19.00

Testing:

450 Rated speed rpm 5.50 rack travel mm : + 0.10 Tolerance mm

2.00 rack travel mm Rated speed rpm 500 Tolerance 1/min

TORQUE CONTROL

Rated speed rpm : 750 rack travel mm : 13.15 Tolerance mm : + 0.05

STARTING FUEL DELIVERY

Rated speed rpm 100 20.50 rack travel mm Tolerance mm : **←** 0.50

Del. quantity

cm3/1000 strokes : 140.5

Tolerance

 $c_{13}/1000$ strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 450

5.50 Rack travel in mm: Tolerance mm 0.10

Del. quantity cm3/1000 strokes : 22.5

Tolerance

cm3/1000 strokes : -2.0

Check tolerance

4.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 08.01.98 : ISO 4113

Combination No. : F 002 AOZ 094

Injection pump

Pump designation : PES4A9UD321RS2829

EP type number : 9 410 037 189

Governor

Governer design. : RSV325...1750A0C968R

Governer no. : F 002 A20 024

Cust. part No. :

Customer-spec. information

Customer : EICHER

Motor

: 4D31C EXPORT

Power KW

: 69.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 9 411 037 403

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

her

173.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : ∠26.0 Tolerance bar : ← 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

Check

tolerance min : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1- 3-4-2

: 0-90-270-360 Phasing Phasing Tolerance : **←** 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1750

Rack travel in mm: 8.60

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 47.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s.

: **←** 2.5

Spreed

| Tolerance cm3/1000 strokes : 3.0 | Check tolerance : 7.0 |
|--|--|
| Check tolerance cm3/1000s. : 7.0 | |
| | - CONTROL LEVER |
| Rated speed rpm : 325 | control lever 54.0 |
| Rack travel in mm : 7.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 10.5 | control lever position degree : 104.0 tolerance degree : +- 4.0 |
| Tolerance cm3/1000 strokes : + 2.0 Check tolerance | - RATED SPEED - rack travel mm : 7.50 - Rated speed rpm : 1845 |
| cm3/1000s. : + 4.0 | Tolerance 1/min : +- 5 |
| Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0 | rack travel mm : 4.00 Rated speed rpm : 1900 Tolerance 1/min : +- 15 |
| (B) SETTING OF INJECTION PUMP | rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 2100 |
| WITH GOVERNOR GUIDE SLEEVE POSITION | rack travel mm : 4.00 Rated speed rpm : 1940 Tolerance 1/min : +- 15 |
| control lever position degree : FREE Rated speed rpm : 800 | LOW IDLE |
| Rack travel in mm: 0.50 Tolerance mm: : + 0.20 governor spring | control lever position degree : 73.0 tolerance degree : +- 4.0 |
| pre-tension click setting x : 4.75 | control lever position degree : 23.0 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Setting point w/out bumper spring |
| Rated speed rpm : 1750 Aneroid pressure hPa : - | Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10 |
| Del. quantity cm3/1000 strokes : 47.5 | Rated speed rpm : 100 |
| Tolerance cm3/1000 strokes : + 0.5 check tolerance | CRT mm min. :> 16.00 Testing: |
| cm3/1000s. : + 2.5 | . Rated speed rpm : 325 |
| Tolerance cm3/1000 strokes : 3.0 | rack travel mm : 7.00 Tolerance mm : + 0.10 |

| rack travel mm Rated speed rpm Tolerance 1/min | : 2.00 : 680 : ← 30 |
|--|---|
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1750 : 8.60 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 1100 : 8.70 : + 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | : 750 : 8.85 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa | ; - |
| hPa Rated speed rpm Del. quantity | : - : 1100 : 49.5 |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : 49.5 |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : 49.5 |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes | : 49.5 : ← 1.5 : ← 3.5 |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | : 49.5 : ← 1.5 : ← 3.5 |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa | : 49.5 : + 1.5 : + 3.5 : 4.0 : 8.0 |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa rack travel mm Tolerance mm | : 49.5 : + 1.5 : + 3.5 : 4.0 |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa rack travel mm Tolerance mm Tolerance cm3/1000 strokes | : 49.5 : + 1.5 : + 3.5 : 4.0 : 8.0 |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa rack travel mm Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed | : 49.5 : + 1.5 : + 3.5 : 4.0 : 8.0 : |
| hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa rack travel mm Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : 49.5 : ← 1.5 : ← 3.5 : 4.0 : 8.0 : 8.85 : ← 0.05 : ← 1.5 |

| Rated speed rpm | : | | 100 |
|-------------------------------------|---|----|---------------|
| rack travel mm Tolerance mm | : | + | 14.00 0.50 |
| Tolerance cm3/1000 strokes | • | +- | 7.5 |
| Check tolerance | · | | |
| cm3/1000s. | : | + | 10.0 |
| LOW IDLE | | | |
| Rated speed rpm | : | | 325 |
| Rack travel in mm | : | | 7.00 |
| Tolerance mm Del. quantity | : | + | 0.10 |
| cm3/1000 strokes | : | | 10.5 |
| Tolerance cm3/1000 strokes | : | + | 2.0 |
| Check tolerance | | | 4.0 |
| cm3/1000s. Spreed | : | +- | 4.0 |
| Tolerance | | | , - |
| cm3/1000 strokes Check tolerance | : | | 4.5 |
| cm3/1000S. | : | | 7.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 14.11.97 : ISO 4113

Combination No.

: 0 401 846 843

Injection pump

Pump designation : PE6P120A720R83069

EP type number

: 0 411 826 712

6overnor

Governer design. : RQV300...1000PA501

: -4

Governer no.

: 0 421 813 609

Cust. part No. :

Customer-spec. information

Customer

: IVECO-FIAT

Motor

: 8210.22.371

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Test oil inler

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

208.5

Tolerance bar

: **←** 1.5

Test lines

: 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.55 : + 0.05Tolerance mm

Check

: + - 0.10tolerance mma

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 12.55 Tolerance mm

: **←** 0.05

Del. quantity

cm3/1000 strokes : 206.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed

N13

| Tolerance | + Aneroid pressure |
|---|--|
| cm3/1000 strokes : 5.0 | hPa : 700 |
| | Del. quantity |
| Check tolerance | + cm3/1000 strokes : 206.0 |
| cm3/1000s. : 9.0 | + Tolerance |
| | + cm3/1000 strokes : + 1.0 |
| | + Check tolerance |
| 700 | + cm3/1000s. : $+$ 4.0 |
| Rated speed rpm : 300 | Spreed |
| Rack travel in mma: 6.20 | + Tolerance + cm3/1000 strokes : 5.0 |
| Tolerance mm : + 0.10 | Check tolerance |
| Del. quantity | + cm3/1000s. : 9.0 |
| cm3/1000 strokes : 20.0 | + |
| Tolerance | + |
| cm3/1000 strokes : + 3.0 | + |
| Check tolerance | + CONTROL LEVER |
| cm3/1000s. : + 6.0 | t control lower |
| Spreed Tolerance | control lever position degree : 120.0 |
| cm3/1000 strokes : 8.0 | tolerance degree : + 4.0 |
| Check tolerance | + viscon arises degree . viscon |
| cm3/1000s. : 12.0 | + RATED SPEED |
| | rack travel mm : 11.50 |
| 4-1 | + Rated speed rpm : 1045 |
| (B) SETTING OF INJECTION PUMP | Tolerance 1/min : +- 5 |
| WITH GOVERNOR | + Check |
| | + speed 1/min : +- 10 |
| GUIDE SLEEVE TRAVEL | rack travel mm : 4.00 |
| | + Rated speed rpm : 1145 |
| Rated speed rom : 1000 | + Tolerance 1/min : + 15 |
| guide sleeve | Check |
| travel mm : 8.10 | + speed 1/min : +- 20 |
| Tolerance mm : ← 0.15 | rack travel mm : 0.50 |
| Rated speed rpm : 325 | Tolerance in : + 0.50 |
| guide sleeve | Rated speed rpm : 1250 |
| travel am : 1.70 | + |
| Tolerance mm : + 0.20 | + |
| | † |
| Rated speed rpm : 450 | LOUTOUT |
| guide sleeve travel mm : 3.10 | + LOW IDLE |
| Tolerance mm : + 0.20 | I |
| 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - | + control lever |
| Rated speed rpm : 800 | position degree : 67.0 |
| guide sleeve | tolerance degree : + 4.0 |
| travel mm : 5.90 | † |
| Tolerance mm : + 0.20 | Setting point w/out bumper spring |
| Rated speed rpm : 1300 | Rated speed rpm : 100 |
| guide sleeve | Nated speed (pill . 100 |
| travel mm : 11.50 | + CRT mm min. :> 7.70 |
| Tolerance mm : + 0.50 | + |
| | Testing: |
| | † a |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 300 |
| Rated speed rpm : 1000 | + rack travel mm : 6.20 + Tolerance mm : + 0.10 |
| rated Speed ripm : 1000 | T locerative min : The U. IU |

| Rated speed rpm | : 370 |
|---|---------------------------------------|
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1000 : 12.55 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 500 : 12.60 : ← 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 700 : 12.55 : ← 0.05 |
| Rated speed rpm Fressure hPa rack travel mm Tolerance mm | : 500 : - : 9.80 : + 0.10 |
| MEASUREMENT | |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 230 : 10.85 : ← 0.15 |
| Pressure hPa rack travel mm Tolerance mm | : 280 : 11.85 : +- 0.05 |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes | : - : 500 : 132.0 |
| Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : + 1.0 : + 4.0 |
| | |

| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : +- | 100 200.0 15.0 19.0 | |
|--|------|------------------------------|--|
| LOW IDLE | | | |
| Rated speed rpm | : | 300 | |
| Rack travel in mm Tolerance mm Del. quantity | : +- | 6.20 0.10 | |
| cm3/1000 strokes | : | 20.0 | |
| cm3/1000 strokes | : +- | 3.0 | |
| Check tolerance cm3/1000s. Spreed | : +- | 6.0 | |
| Tolerance cm3/1000 strokes | : | 8.0 | |
| Check tolerance cm3/1000s. | : | 12.0 | |
| | | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17.11.97 : ISO 4113

Combination No.

: 0 401 848 828

Injection pump

Pump designation: PE8P120A520/4L\$3850.

EP type number

: 0 411 828 723

Governor

Governer design. : RQ300/900PA1230 Governer no.

: 0 421 801 792

Cust. part No.

Customer—spec. information Customer : DHI

Motor

: D2848LE

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

tempo. °C

40

Tolerance °C

: +- 2.0

Overflow valve

: 1 417 413 025

Inlet press. bar :

1.5

Tolerance bar

: +- 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +-1.0

Prestroke mm 4.05 : + 0.05Tolerance mm Check tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : **←** 1.50

: 8-7-2-6-3 Firing order : - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

Start of delivery mark

Tolerance : + 0.50Check tolerance 'NW : **←** 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm: 12.20 Tolerance mm: \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 215.0

| Tale to the second seco | |
|--|--|
| Tolerance | + guide steeve |
| $cm3/1000$ strokes : \leftarrow 1.0 | + travel mm : 6.00 |
| | † Tolerance mm : ← 0.10 |
| Check tolerance | 1050 |
| cm3/1000s. : +- 4.0 | + Rated speed rpm : 1050 |
| | + guide sleeve |
| Spreed | + travel mm : 11.50 |
| | + Tolerance mm : + 0.50 |
| Tolerance | + |
| cm3/1000 strokes : 6.0 | + |
| | + GUIDE SLEEVE POSITION |
| Check tolerance | + |
| cm3/1000s. : 10.0 | + |
| | + control lever |
| | + position degree : 109 |
| | + Rated speed rpm : 600 |
| Rated speed rpm : 300 | + |
| | + Rack travel in mm : 20.00 |
| Rack travel in mm: 7.40 | † Tolerance mm : + 0.80 |
| Tolerance mm : +- 0.10 | + |
| Del. quantity | + |
| cm3/1000 strokes : 42.0 | + FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance | + |
| $cm3/1000$ strokes : \leftarrow 3.0 | + Rated speed rpm : 850 |
| Check tolerance | + Aneroid pressure |
| $cm3/1000s$. : \leftarrow 6.0 | + hPa : - |
| Spreed | + Del. quantity |
| Tolerance | + cm3/1000 strokes : 215.0 |
| cm3/1000 strokes : 6.0 | + Tolerance |
| Check tolerance | + cm3/1000 strokes : +- 1.0 |
| cm3/1000s. : 10.0 | + Check tolerance |
| | + cm3/1000s. : $+$ 4.0 |
| | + Spreed |
| (B) SETTING OF INJECTION PUMP | + Tolerance |
| WITH GOVERNOR | + cm3/1000 strokes : 6.0 |
| | + Check tolerance |
| | + cm3/1000s. : 10.0 |
| GUIDE SLEEVE TRAVEL | + |
| | + |
| Rated speed rpm : 932 | + |
| guide sleeve | + CONTROL LEVER |
| travel mm : 6.37 | + |
| Tolerance mm : + 0.10 | + control lever |
| | + position degree : 32.0 |
| Rated speed rpm : 300 | + tolerance degree : +- 4.0 |
| guide sleeve | + |
| travel mm : 1.44 | + control lever |
| Tolerance mm : + 0.10 | + position degree : 94.0 |
| | + tolerance degree : +- 4.0 |
| Rated speed rpm : 880 | + |
| guide sleeve | + RATED SPEED |
| travel mm : 6.00 | + rack travel mm : 11.20 |
| Tolerance mm : + 0.10 | + Rated speed rpm : 905 |
| | + Tolerance 1/min : + 5 |
| Rated speed rpm : 433 | + |
| guide sleeve | + rack travel mm : 4.00 |
| travel mm : 4.94 | + Rated speed rpm : 950 |
| Tolerance mm : + 0.10 | † Tolerance 1/min : + 15 |
| | + |
| Rated speed rpm : 510 | + rack travel mm : 0.50 |
| | |
| N17 | |
| | |

Tolerance mn: \leftarrow 0.50 Rated speed rpm : 1100 LOW IDLE control lever position degree : 75.0 tolerance degree : + 4.0 control lever position degree : 13.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 200 CRT mm min. :> 9.80 Testing: 300 Rated speed rpm : rack travel mm 7.40 : +- 0.10 Tolerance mm 2.00 rack travel mm : Rated speed rpm : 420
Tolerance 1/min : + 20 TORQUE CONTROL 850 Rated speed rpm : rack travel mm : 12.20 Tolerance mm : **←** 0.05 Rated speed rpm : 650 rack travel mm : 12.20 : + 0.10 Tolerance mm Start interlock Rarted speed rpm :> 100 Rated speed rpm : < 220 Check : > 80 speed 1/min Check : < 240 speed 1/min

Aneroid pressure hPa Rated speed rpm : 650 Del. quantity cm3/1000 strokes : 218.0 Tolerance cm3/1000 strosss : +- 3.0 Check toleranss cm3/1000s. : + 6.0

STARTING FUEL DELIVERY

Del. quantity cm3/1000 strokes : 190.0 Tolerance cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s.: + 24.0

LOW IDLE

Rated speed rpm : **300**

Rack travel in mm: 7.40 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.11.97 Edition Test oil : ISO 4113

Combination No. : 0 401 849 715

Injection purp

Pump designation : PE10P120A520/4LS3830

EP type number : 0 411 829 704

Governor

Governer design. : RQV250...1150PA668

: -7

Governer no. : 0 421 813 481

Cust. part No. :

Customer-spec. information Customer : MAN Motor : D2840LE Power KW : 463.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter : 1.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : \leftarrow 1.0

Prestroke mm : 4.25 Tolerance mm : + 0.05 Check tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 10-9-4- 1- 8

: - 7- 6- 3- 5 : - 2

: 0-45-72-117-144 Phasing

: -189-216-261-288

: --333

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.25 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 206.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

N19

| Spreed | + Del. quantity |
|---|--|
| · | cm3/1000 strokes : 206.0 |
| Tolerance 5.0 | Tolerance |
| cm3/1000 strokes : 5.0 | cm3/1000 strokes : +- 1.0 Check tolerance |
| Check tolerance | cm3/1000s. : + 4.0 |
| cm3/1000s. : 9.0 | Spreed |
| - | Tolerance |
| • | + cm3/1000 strokes : 5.0 + Check tolerance |
| Rated speed rpm : 250 | + cm3/1000s. : 9.0 |
| | + |
| Rack travel in mm: 7.10 | † |
| Tolerance mm : + 0.10 Del. quantity | CONTROL LEVER |
| cm3/1000 strokes : 20.0 | T COMMINGS FEASY |
| Tolerance | - control lever |
| cm3/1000 strokes : + 3.0 | position degree : 122.0 |
| Check tolerance : + 6.0 | tolerance degree : + 4.0 |
| cm3/1000s. : +- 6.0 Spreed | T + RATED SPEED |
| Tolerance | rack travel mm : 11.20 |
| cm3/1000 strokes : 8.0 | Rated speed rpm : 1195 |
| Check tolerance | Tolerance 1/min : + 5 |
| cm3/1000s. : 12.0 | † + rack travel mm : 4.00 |
| | Rated speed rpm : 1330 |
| (B) SETTING OF INJECTION PUMP | Tolerance 1/min : + 15 |
| WITH GOVERNOR | † |
| | + rack travel mm : 0.50 + Tolerance mm : + 0.50 |
| GUIDE SLEEVE TRAVEL | Rated speed rpm : 1450 |
| | + |
| Rated speed rpm : 1215 | † |
| guide sleeve travel mm : 9.00 | I |
| Tolerance mm : + 0.15 | + LOW IDLE |
| | + |
| Rated speed rpm : 250 | † |
| guide sleeve travel mm : 1.05 | + control lever + position degree : 68.0 |
| Tolerance ma : +~ 0.20 | tolerance degree : +- 4.0 |
| | + |
| Rated speed rpm : 610 | + Setting point w/out bumper spring |
| guide sleeve travel mm : 5.50 | T Rated speed rpm : 100 |
| Tolerance mm : + 0.25 | + |
| | + CRT mm min. :> 8.60 |
| Rated speed rpm : 1590 | † _{****} |
| guide sleeve travel mm : 11.50 | Testing: |
| Tolerance mm : + 0.50 | Rated speed rpm : 250 |
| | I Water speed this . EDO |
| • | + rack travel mm : 7.10 |
| THE LOAD DELTHERY AT THE LOAD CTOD | |
| FULL LOAD DELIVERY AT FULL LOAD STOP | + rack travel mm : 7.10 |
| | + rack travel mm : 7.10 |
| Rated speed rpm : 1150 Aneroid pressure | rack travel mm : 7.10 Tolerance mm : + 0.10 TORQUE CONTROL Rated speed rpm : 1150 |
| Rated speed rpm : 1150 | rack travel mm : 7.10 Tolerance mm : + 0.10 TORQUE CONTROL |

Start interlock

Rated speed rpm : > 100 Rated speed rpm : < 200

Check

speed 1/min : > 80 Check

speed 1/min : < 220

STARTING FUEL DELIVERY

100 Rated speed rpm 20.25 rack travel mm : + 0.75 Tolerance mm Del. quantity

200.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

: + 14.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 250

7.10 Rack travel in mm : Tolerance num : +- 0.10 Del. quantity cm3/1000 strokes : 20.0

Tolerance cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +-6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.11.97 Test oil : ISO 4113

Combination No. : 0 402 044 700

Injection pump

Pump designation : PES4P110A320RS3350

EP type number : 0 412 014 700

Governor

Governer design. : RQV350...1400PA1221K

Governer no. : 0 421 815 472

Cust. part No. : 16700-D8703 / M

: -2004

Customer-spec. information

Customer : NMI

: B4.40 EURO II Motor

Power KW : 101.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.55 Tolerarice mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.50 Tolerance mm : +- 0.50

Firing order : 4-2-1-3

: 0-90-180-270 Phasing

Phasing Tolerance $: \leftarrow 0.50$

Check

: **←** 0.75 tolerance °NW

Start of delivery mark

*NW after s.o.d. : 180.00

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 4

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 15.40

Tolerance mm : \leftarrow 0.05

| Del. quantity cm3/1000 strokes | : 178.0 | Tolerance mm : +- 0.25 |
|--|----------------------|--|
| - 1 | | Rated speed rpm : 1730 |
| Tolerance cm3/1000 strokes | · +- 10 | - guide sleeve - travel mm : 13.50 |
| CHOT TOOU SET ONES | . 1.0 | Tolerance man : +- 0.50 |
| Check tolerance | | |
| | : ← 3.0 - | |
| | | - GUIDE SLEEVE POSITION |
| Spreed | - | |
| Tolerance | | control lever |
| cm3/1000 strokes | : 5.0 | position degree : -1 |
| CID 1000 Strokes | . 3.0 | - Rated speed rpm : 1515 |
| Check tolerance | - | - |
| cm3/1000s. | : 9.0 | Rack travel in mm: 14.50 |
| | | Tolerance mm : + 1.30 |
| | - | |
| Rated speed rpm | : 350 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| ridaca opcoa i più | - | - TOLL LOND DELLICITY AT TOLL LOND DIO |
| Rack travel in mm | | Rated speed rpm : 1300 |
| Tolerance mm | : ← 0.10 | Aneroid pressure |
| Del. quantity | 74.0 | hPa : 1500 |
| cm3/1000 strokes | : 37.0 | Del. quantity |
| Tolerance cm3/1000 strokes | 25 | cm3/1000 strokes : 178.0 Tolerance |
| Check tolerance | 2.5 | r 10terante - cm3/1000 strokes : +- 1.0 |
| cm3/1000s. | : - 5.0 - | Check tolerance |
| Spreed | - | cm3/1000s. : +- 3.0 |
| Tolerance | ~ | Spreed |
| cm3/1000 strokes | : 6.0 | - Tolerance |
| Check tolerance | : 10.0 | cm3/1000 strokes : 5.0 |
| cm3/1000s. | : 10.0 | Check tolerance cm3/1000s. : 9.0 |
| | _ | |
| (B) SETTING OF INJ | ECTION PUMP - | |
| WITH GOVERNOR | - | |
| | - | CONTROL LEVER |
| GUIDE SLEEVE TRAVE | 1 | r - control lever |
| GOIDE SEELAE INVAL | | position degree : 65.0 |
| Rated speed rpm | : 1417 - | - tolerance degree : + 4.0 |
| guide sleeve | - | - |
| travel mm | 9.99 | control lever |
| Tolerance mm | : + 0.15 | position degree : 122.0 |
| Rated speed rpm | : 350 | tolerance degree : +- 4.0 |
| guide sleeve | . 550 | RATED SPEED |
| travel mm | : 1.46 - | rack travel mm : 14.40 |
| Tolerance mm | : ← 0.20 - | Rated speed rpm : 1410 |
| | - | Tolerance 1/min : + 5 |
| THE STATE OF THE S | : 994 | t and thought and the control of the |
| guide sleeve travel mm | : 6.77 | rack travel mm : 4.00 Rated speed rpm : 1585 |
| | : + 0.25 | F Rated speed rpm : 1303 F Tolerance 1/min : +- 15 |
| | | - rocerding trimiti |
| Rated speed rpm | : 610 | rack travel mm : 0.50 |
| guide sleeve | - | Tolerance mm : + 0.50 |
| | : 3.96 | Rated speed rpm : 1640 |
| | · | |

| LOW IDLE | |
|---|-------------------------------|
| control lever position degree tolerance degree | : 82.0 : + 4.0 |
| control lever position degree tolerance degree | : 26.0 : + 4.0 |
| Setting point w/o | ut bumper spring |
| Rated speed rpm | : 250 |
| CRT mm min. | : > 10.70 |
| Testing: | |
| Rated speed rom rack travel mm Tolerance mm | |
| Rated speed rpm | : 500 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 1300 : 15.40 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 780 : 13.70 : + 0.15 |
| Rated speed rpm rack travel mm Tolerance mm | : 1000 : 14.30 : + 0.20 |
| Rated speed rpm rack travel mm Tolerance mm | : 1250 : 15.40 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa | : 1300 : 1500 |

1500

: 15.40 : + 0.10

: 1300

| Pressure hPa rack travel mm Tolerance mm | : - : 12.60 : + 0.10 |
|---|--|
| MEASUREMENT | |
| Rated speed rpm | : 1300 |
| Pressure hPa rack travel mm Tolerance mm | : 660 : 14.30 : + 0.10 |
| Pressure hPa rack travel mm Tolerance mm | : 520 : 13.10 : +- 0.05 |
| Start interlock | |
| Rated speed rpm Rated speed rpm | : > 100 : > 270 |
| Check speed 1/min Check speed 1/min | : > 80 : > 290 |
| | |
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure hPa Rated speed rpm | : 1500 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes | : 1500 : 780 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : 1500 : 780 : 154.0 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed | : 1500 : 780 : 154.0 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes | : 1500 : 780 : 154.0 : + 2.0 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance | : 1500 : 780 : 154.0 : + 2.0 : + 5.0 |
| Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance | : 1500 : 780 : 154.0 : + 2.0 : + 5.0 |

Tolerance

Check tolerance cm3/1000s.

cm3/1000 strokes : +- 3.0

: +- 6.0

Pressure hPa

rack travel mm

Rated speed rpm

Tolerance mm

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 136.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : \leftarrow 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 200.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : \leftarrow 19.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm: 9.40 Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 31.0

Tolerance

cm3/1000 strokes : \leftarrow 2.5

Check tolerance

cm3/1000s. : \leftarrow 5.0

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/100Gs. : 10.0